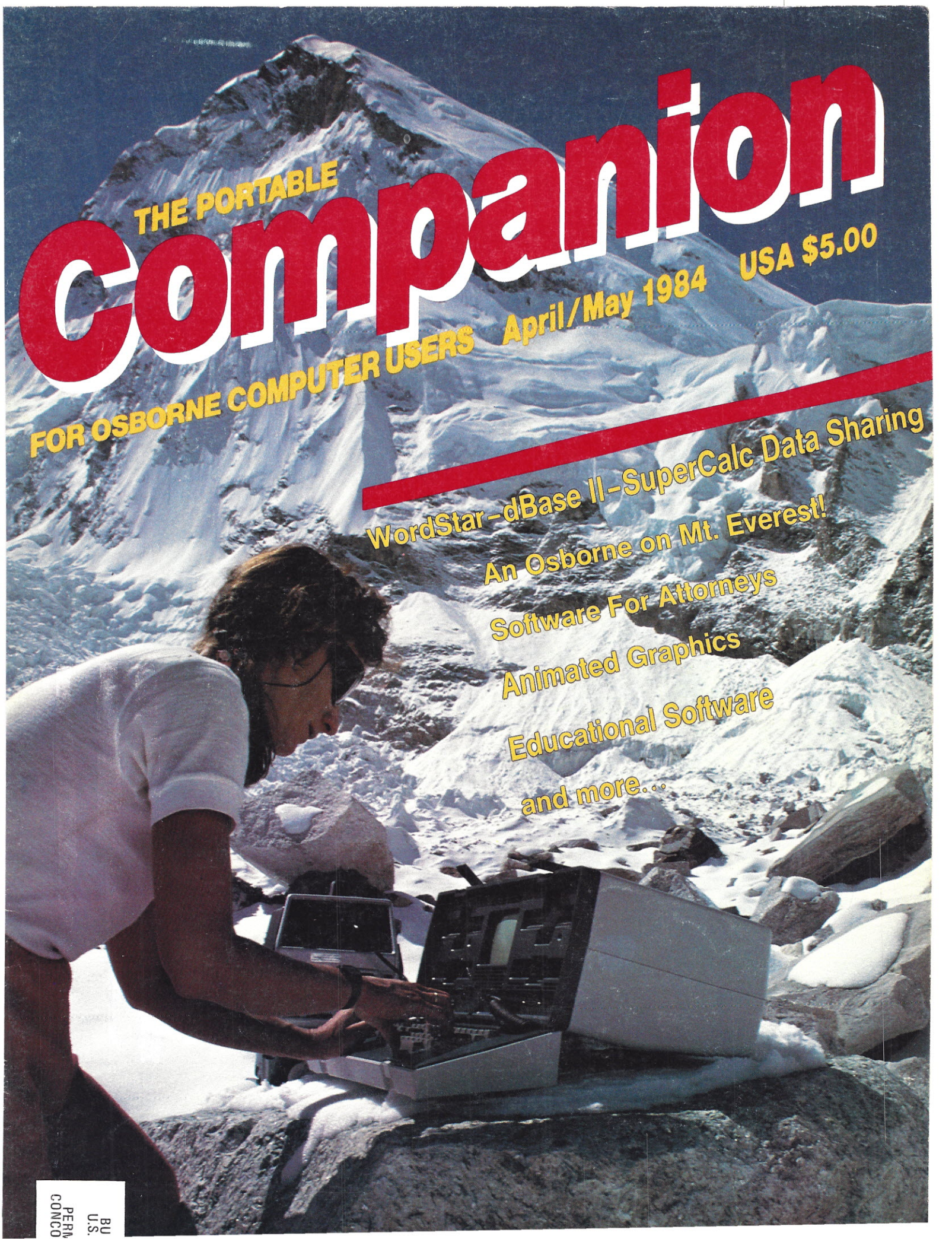

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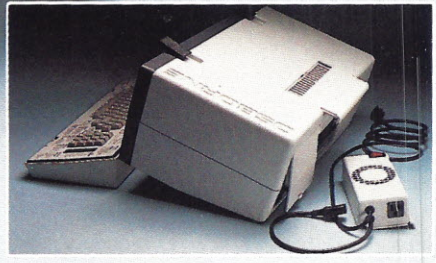

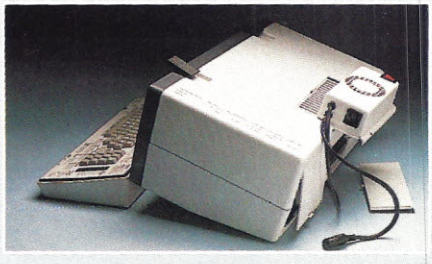

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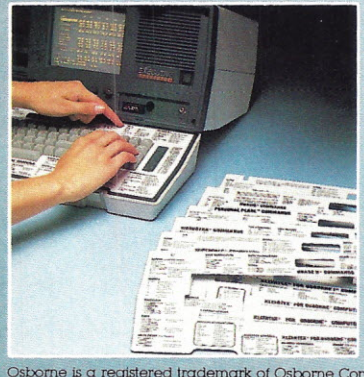

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THE PORTABLE
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FOR OSBORNE COMPUTER USERS APRIL/MAY 1984 VOL. 3 NO. 1

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Features

User Groups

Departments

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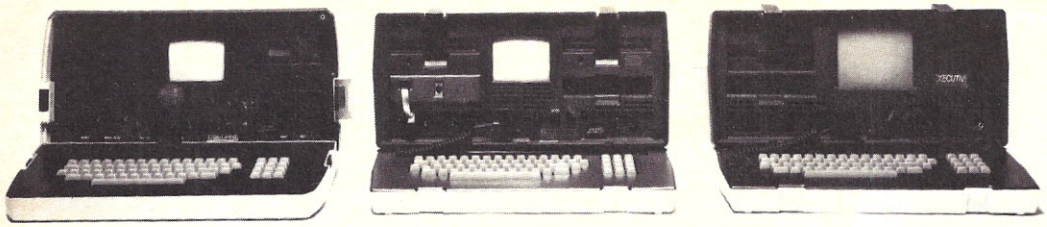

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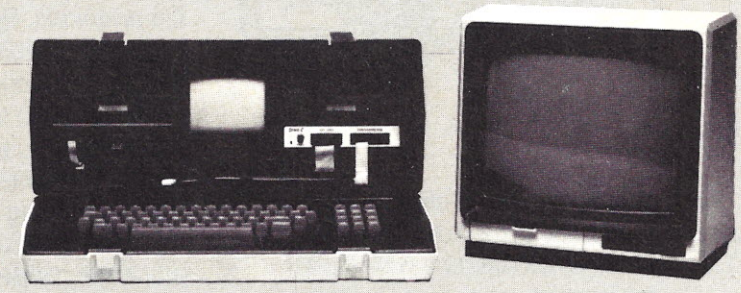

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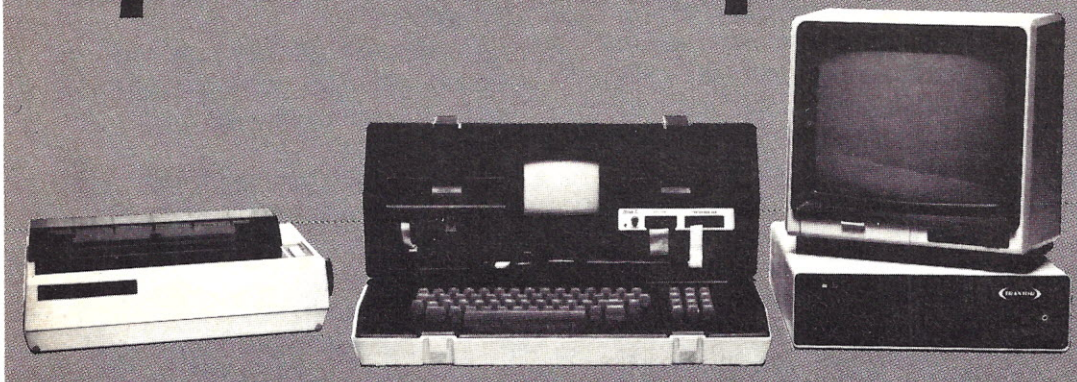

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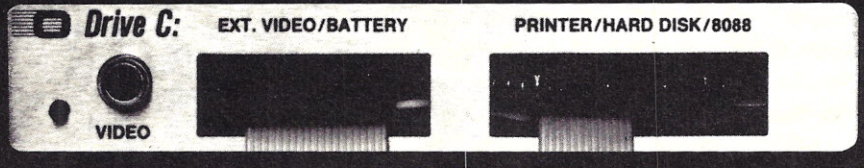

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Letters

Graphic typos

Having read through "Graphic Illustrations" in the June issue, I noticed a couple of minor typographic errors.

Lines 380 and 390 are not needed and waste space. Line 580 needs to be omitted. Line 460 should read IF K<=40 THEN K=K/2:GOTO 490.

William H. Burkett
Houston, TX

Open-or-shut case

I have encountered one minor problem with my Osborne 1. That is, what should I do with the disk drives during transporting the computer from home to my office? I have received conflicting recommendations from my local dealer. Do I insert the original protective cardboard pieces and latch the doors or do I leave the drives open or latched without the cardboard pieces? I have received instructions to do both.

Harold J. Jacoby
Racine, WI

Closed, no cardboard—according to Field Service Supervisor Jim Stone.

And speaking of cases ...

I almost bought a padded carrying case for my Osborne 1 made by JMM Enterprises, Inc. I didn't buy it because it had a very poor fit around the handle. The slot for the handle was cut a full half-inch from where it should have been, and stretching it to fit would lead to early tearing at the corners of the slot.

It turns out that the JMM padded case was designed for the tan-case Osborne. A close look at JMM's full color advertisement reveals an old tan Osborne under the partially open flap. A phone call to JMM as a follow-up to an earlier order revealed that they are up to their eyeballs in padded cases. They aren't making any more until their stock is reduced. That means they are not making any to fit a blue case Osborne, despite the color of the JMM padded case shown in their ad.

Unsuspecting readers with blue-case Osbornes are advised that they JMM padded cases will not fit properly. *Portable Companion* should require a notice to this effect in the JMM advertisement.

Robert G. Savage
Del City, OK

Karen Klein of JMM responds: Regarding our padded carrying case for the Osborne, we now have three sizes of carrying cases to fit the various Osborne models. Initially we had a sizing problem, because the handle in our prototype housing was installed backward. However, this problem has been corrected and we now offer carrying cases to fit all the Osbornes.

Should any of our customers have purchased a case that doesn't fit correctly, we urge them to return it to us and we will gladly replace it with a case that fits correctly. Thank you for the opportunity to respond to this situation.

Fore! your library

It took extensive research to find a suitable binder for my *Portable Companions*. Being an avid golfer, I found that *Golf Digest* markets a binder that works well. It does say *Golf Digest* on the outside,but the way I figure it, your magazine made a "big hit" with me, so why not. Preserving my magazines is like protecting an investment. If any other readers are interested, here is the information:

Send $6.95 to Golf Digest Magazine Binder; Golf Digest Special Services; P.O. Box 5350, Norwalk, CT 06856.

The binder holds 12 issues and reminds me of the binders in libraries that use metal rods to hold in the magazines.

I can't tell you how much I appreciate the quality of your magazine. Please keep up the excellent work. It makes my computer so much more usable.

Matthew L. Lechleitner
Bay Village, OH

A hex on HEXDHEX

Your August issue contained a short BASIC utility program submitted by me entitled "HEXDHEX." Unfortunately, Murphy's Law of Typeseting intervened and resulted in the omission of one character vital to the program. As printed, line 10160 reads:

```
10160 IF SGN (X)=-1 THEN
X=65536!(X) ELSE 10170
```

In order for the necessary addition to take place, a + sign is needed so that the line should read:

```
10160 IF SGN (X)=-1 THEN X-
65536!+(X) ELSE 10170
```

continued on page 9

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THE PORTABLE Companion
FOR OSBORNE COMPUTER USERS

Advertiser Index

Thom Hogan, the first publisher of this magazine, likened it to a black hole that constantly gobbled up articles and information. Osborne Computer Corporation fell into another black hole: bankruptcy. Yet as this magazine goes to press, OCC is presenting to the chapter eleven court a sound plan for reorganization.

And this magazine is starting up for the second time. It was revived in a frenzy of activity and under the nearly-impossible deadline of the West Coast Computer Faire. With the help of OCC, previous editors of *Portable Companion,* and the staff of *User's Guide,* we made it out of the black hole.

Portable Companion's 12th issue, April/May 1984 (volume 3 number 1), was published by Osborne Computer Corporation and produced by TUG Inc., publishers of *User's Guide* magazine. As Osborne undergoes reorganization, this magazine will be taking on a new form and will contain new substance.

We are writers and associate publishers with TUG Inc., and independent of OCC. We have a commitment to edit, write and produce in these pages the most useful editorial content you can find about Osborne computers.

To that end we are continuing the magazine's features and departments, such as The Wizard and The Processed Word. We are reviving the User Groups section with its candid product reviews, and the departments that focus on WordStar, SuperCalc and dBASE II. Adam Osborne's "From the Fountainhead" column appears in this issue, as do several feature articles on using the Osborne, including one about climbing Mt. Everest with one.

Your enthusiasm for Osborne computers during these troubled times has helped OCC's reorganization efforts. Now more than ever people are discovering the value of an Osborne computer. We appreciate the user groups for their efforts in providing Osborne users the information they need.

We hope you appreciate our efforts to revive this magazine, which can and should survive on its own. We are more than happy to edit and produce a magazine that can serve the specific needs of an estimated 170,000 Osborne users.

This second startup is dedicated to those users. Let us know what you think.

Tony Bove & Cheryl Rhodes
Woodside, CA
April, 1984

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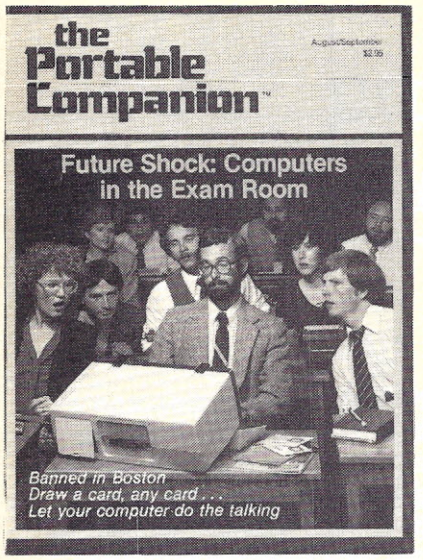

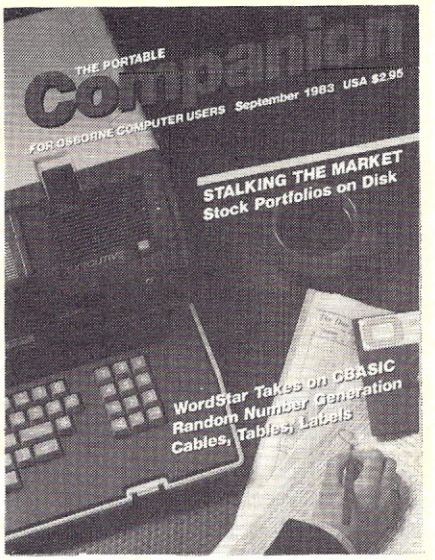

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PC B/112

Meeting new standards

Microcomputers have already become consumer electronics products. As such, customers are going to enforce industry standards upon hardware manufacturers. A microcomputer owner buying software does not want to worry about "program compatibility."

"You do not worry about the brand of your stereo system turntable when buying a record, so why should you have to worry about your brand of computer when buying software?"

"You do not worry about the brand of your stereo system turntable when buying a record, so why should you have to worry about your brand of computer when buying software?" Unfortunately you do, but chances are you won't for much longer.

At OCC, I always supported industry standards. That is why our first machine supported the CP/M industry standard. Unfortunately, the CP/M standard did not go very far. CP/M did not cover diskette formats and screen display formats, to mention just two obvious difficiencies. The IBM-PC standard is total. That is why we enthusiastically support it. It is not a particularly good standard technically, but you as a consumer will rarely encounter its shortcomings, so why bother? We have taken another step towards the goal of achieving a total industry standard and that is good enough. It is important to note that nothing in the IBM-PC standard is proprietary to IBM. They use a rather old and slow 16-bit microprocessor. Virtually every component of the microcomputer is an off-the-shelf product built by someone else. Frankly, the only thing IBM did was establish an industry standard which everyone else could follow, and they are eagerly doing so. It is probably unfortunate that Apple did not encourage people to imitate the Apple II in the late 1970's. Had they done so, today it would be the industry standard.

Having so vigorously defended industry standards, I should next point out that there is a totally different class of microcomputers likely to appear in the coming years, for which industry standards will not

apply. These will be dedicated machines used in very special applications, such as word processing or financial calculations. Such a microcomputer will come with all its programs bundled, either on diskettes or perhaps using read-only memory cartridges in the future. These microcomputers will be small, portable and quite inexpensive. To achieve low costs they will be designed specifically for particular applications, which is why you will not buy a whole bunch of different programs for one of these products. Therefore, compa tibility and the lack of it will be irrelevant, providing the data (text or numeric) is easily transferred to larger industry standard microcomputers. These will be business appliances.

What little end user support microcomputer manufacturers provide today will disappear quickly in the era of microcomputer mass merchandising. It is in fact an oddity of the microcomputer industry that someone who buys a very inexpensive piece of hardware expects the manufacturer to maintain a large staff of support personnel simply waiting to answer end users questions. End users do not expect to pay for this assistance, of course, in fact they frequently expect to be provided with a toll free 800 telephone number. You do not call your stereo system manufacturer for wiring or maintenance advice. If your car malfunctions you do not call Detroit. Why then do microcomputer users expect manufacturers to maintain large staffs to help end users? It is an extremely expensive demand. A microcomputer manufacturer who maintained such a staff would have to charge a good deal more for the hardware. Would the average customer pay more simply to get better support? Human nature being what it is the answer is almost certainly no. That is why in the new era of industry standard consumer microcomputers, you will no longer be able to call the manufacturer for any type of help.

continued from page 4

Though this error is fairly obvious, some reader frustration might be averted by printing a correction.

Changing themes, let me congratulate you and OCC for your excellent publication. It has content for every level and area of Osborne interest and is eagerly read by most of the Osborne owners I know.

John E. Cunio
Coral Gables, FL

Exclamatory remarks

When scrolling horizontally with the arrow keys rapidly on the Executive, the cursor often runs away out of control. It will continue bouncing off the limits of my text until it tires and leaves some strange symbols (normally exclamation points) imbedded amongst my words. Time and sometimes hard work is lost.

Peter E. Flick
Old Hickory, Tennessee

You are not alone in this problem. It has to do with the speed of WordStar 3.3 and a kind of buffer overflow. The best solution is to wait the noisy interference out. Grab a cup of coffee and come back. When the computer stops spitting out exclamation marks (time varies), save your file and reenter it. Your edited text should be intact and all unwanted punctuation gone. You can press reset, but this will result in a loss of all your editing. The best way to avoid this scenario is not to hold down the arrow key or control key when scrolling and to proceed at a more reasonable pace, allowing the buffer to catch up.—Ed

ZOWIE.DOC

Wow! You did it! You wrote an excellent user's manual. Last September I purchased an Osborne 1 and found the user's manual okay but sometimes confusing. And, in a few cases, it did not have enough information.

Two weeks ago I purchased a new Executive. Your user's manuals are wonderful. The specifying of learning objectives and the necessary knowledge were both most useful.

Nobody does it better.

John R. Wish
Wakefield, RI

Another twist

A note to our readers from Gary Cuevas, author of "MBASIC Brain Twisters" in the June issue of the Companion:

"Thank you for pointing out my own misconceptions regarding MBASIC's FIELD statement relating to the "Brain Twisters" article. To summarize, I suggested using a 500 byte-long string in a FIELD statement. Although the method works in theory, it does not in fact work at all, since MBASIC doesn't like string variables longer than 255 characters.

"I have since received several letters describing a legitimate solution to the described problem. For everyone's edification, I have asked the Companion to reprint one of these letters which demonstrates the working solution. I've chosen the one by Catherine Wildermuth of Austin, TX, as this was the first letter I received on the subject.

"Many thanks to all who mailed in the correct solution."

Gary Cuevas

Dear Mr. Cuevas:

I am writing in reference to your article, first because there is one problem with your recommended solution to "Misconception Regarding the Field Statement," and second, because I have a solution of my own to offer.

You recommend that a large variable buffer be created, giving as an example

500 FIELD#1, 500 AS BNUM$

continued on page 16

The Wizard

Walking the piracy plank

Brad Baldwin

Many of you have seen advertisements in computer magazines that offer to rent software before deciding to buy. Even the *Companion* recently ran an ad for a software rental house. After the ad appeared in several issues, it was decided to discontinue it due to fears that such companies promote the circumventing of software copyright laws. In other words, we felt that renting software could be an indirect invitation to pirate.

I wonder who would shell out a hundred bucks or so just to rent a package for seven days (often including documentation). After all, if the concept is to test and try out software before purchasing, what if the package is not to your liking? Who wants to pay an exorbitant rental fee and have no product to show for it?

I have a feeling most users do not allow temptation to compromise ethics and honesty. Then again, saving $400 by renting and illicitly copying a $500 software package can be a powerful incentive for kicking ethics out the back door.

Q: Page 85 in the July *Companion* contained a brief sidebar called "The CRT Connection." It told how to connect the Osborne 1 to a Televideo terminal using a baud rate generator, a serial cable and the STAT command CON:=CRT:.

I can get it to work with WordStar, but why does it only partially work with SuperCalc? The CRT's (Televideo 920C) keyboard works the way it should and provides the capability of communicating with the O-1. However, SuperCalc's video display appears on my Osborne instead of the CRT's screen. What's the scoop?

A: "The CRT Connection" doesn't work with memory mapped software such as the current release of SuperCalc. The video display accesses RAM bypassing the CRT connection; the keyboard, as you noticed, performs correctly from the external CRT.

You should be aware of another potential problem:

Some software manufacturers place internal hooks in their code to prevent it from working on systems it wasn't licensed for. They don't want their software illegally transferred to other computer systems. (Neither do we.)

Q: In the Apr/May issue I ran into a problem with the program called "Graphics Screenwriting." The problem is in line 660 which reads: A=ASC(A$). I copied the program and tried to run it, but when the program came across that line number it gave me an "Illegal function call in

continued on page 14

Thanks ever so

Brad Baldwin

I'm always impressed with the generosity of people that donate the fruits of their labor to public domain bulletin boards. Some of the programs obviously took a great deal of time to develop and would be big sellers if marketed professionally.

Recently, I received the following letter from Mr. Carl Flarity of Sunnyvale, California. Flarity personifies the unselfish attitudes of the Osborne user group members.

"In the July 1983 issue of the *Companion* there was a question in your column regarding proportional printing with the C.Itoh 8510 and NEC 8023 dot matrix printers. I have written a program that allows one to use proportional printing with right margin justification on these printers from WordStar text files. I have already given this program to the FOG library and PICONET with a request for a $15 donation from those people who find the program useful.

"I am enclosing a copy of the program for your inspection and further distribution as you see fit."

Considering how many people have asked about proportional spacing on these printers, putting the program into the public domain with a request for a mere $15 donation from satisfied users is indeed a generous deed. I am happy to help spread the word that something is indeed available for NEC 8023/C.Itoh 8510 users—and it does work. Contact FOG or PICONET by modem in order to download PROPOR.COM to your computer.

Generosity is not just limited to Osborne user group members—the *Companion's* contributors are also fantastically unselfish. We do compensate contributors and contract writers for their articles, but still, the payment cannot possibly cover the many hours they put into their work. Friends like Mark Compton, Jim Conn, Gary Cuevas, Richard Drakeford, Barbara Elman, William R. Evinger, J.R. Garfield, John Gaudio, Schuyler Ingle, Peter H. Kelly, Shahriar Kianersi, Henry Kisor, Paul Noeldner, Walter Novinger, Cheryl Peterson, Jonathan Plutchok, Joseph Potts, Kelly Smith and Edward Valenzuela have been faithful and loyal contributors to the magazine.

An example of that dedication: Jim Conn's "Graphics Screen Dump" article in the September issue went through several iterations before we accepted it. Conn originally wrote the program in the C language, but it was too long to publish. He shortened it 50 percent and added additional features. In the meantime, I was expecting OCC to introduce a C language—which they didn't. Back to the drawing board. I asked Conn if he could rewrite the program in assembler. After stuffing cotton in my ears in expectation of screams and cursing, Conn instead very politely said "no problem" and got right on it. After we received the new version, I de-

cided to really push my luck so I asked for an MBASIC subroutine option that called the assembly program. Conn outdid himself. He came up with that, plus incorporated a 3-D bar graph program (previously contributed by William Burkett) into the entire affair. All in all, we talked at least a dozen times on the phone and Conn must have spent dozens of hours revamping perfectly good programming. No amount of money was worth the aggravation I must have dragged this poor soul through. However Conn, like many others, enjoyed sharing his knowledge and expertise with other Osborne users.

Q: The bit image mode on the FX80 printer does not seem to be working properly with the Osborne. This program listing in Figure 1 shows how the Osborne will send something, probably a carriage return, after every 126 dots or so. This prevents printing out any bit image line greater than 126 dots long. Do you have a way of correcting this problem?

```
10 N=400:N1=N MOD 256:N2=INT(N/256)
20 LPRINT CHR$(27);"K";CHR$(N1);CHR$(N2);
30 FOR I=1 TO N
40 LPRINT CHR$(255);
50 NEXT I
60 END
```

Figure 1

A: The FX80 printer, Osborne computer and MBASIC software are all functioning as they should be according to your program. What is needed is a way to disable the carriage return from your MBASIC program. A little trick to do that is by using the command WIDTH LPRINT 255 in your first line of the program.

WIDTH xxx—by itself—sets the line width at the terminal and WIDTH LPRINT xxx sets line width at the printer. If xxx = 255 the line width is defined as infinite and MBASIC says goodbye to carriage returns.

Q: Henry Kisor's article "An Instrument of Liberation" (August 1983 *Companion*) was, I'm sure, illuminating to those who never considered a deaf person's inability to use the ordinary telephone. However, it failed to answer the one question I've been asking since I bought my COMM-PAC modem: Is there any software out there which will allow my Osborne 1 to talk the Baudot code with the teletypewriters most deaf people use?

A: 5-bit Baudot teletype printers manufactured before the advent of the computer have generally been replaced with machines that use the more modern 7-bit ASCII code. For the most part, only the early level teletypewriters use 5-bit code, which is why software or hardware ASCII to Baudot products are difficult to find.

However, Baudot code is still quite popular in Europe where communicating by teletypewriter is almost as prevalent as talking by phone in the U.S.

So much for the history lesson. We contacted a company in Pennsylvania called Black Box Catalog which makes a programmable communication adapter performing ASCII to Baudot conversions and back again. Along with supporting 5 level Baudot code, it also handles bidirectional asynchronous RS-232C transmission (speeds up to 9600 baud), has a 1k buffer (4k optional), runs either full or half duplex, and has individually programmable ports. This sort of product isn't cheap—the price is listed at $595. For further information contact Black Box Catalog, P.O. Box 12800, Mayview Road at Park Drive, Pittsburgh, PA.

Q: I'm using a Trantor hard disk that interfaces to the O-1's IEEE port. This, of course, precludes the use of my Epson parallel printer that uses that same port—or does it?

A: Not at all. There are products that convert serial to parallel signals so you can attach printers using Centronics protocols to the RS232 port. One example is the $160 Microfazer printer buffer from Quadram Corporation, 4355 International Blvd., Norcross, Georgia 30093. The primary purpose of the Microfazer is to supply 8k of buffered memory (expandable to ½ megabyte) in order to free up the computer when printing out long documents. The secondary usage, and one that Quadram doesn't seem to be aware of—or at least doesn't publicize—is the serial to parallel conversion when the Osborne IEEE port is tied up with other peripherals such as hard disks.

Another option is to buy Epson's serial card that fastens internally within the printer. I prefer the Microfazer approach because it adds the useful printer buffer feature and it's a more generic solution to anyone owning a parallel printer and thinking about getting a hard disk.

Q: We recently moved to a remote area where we have drops in power that sometimes last two to three seconds. To prevent loss of data, what would be better to use, a surge protector or a battery pack?

A: Neither, really. A surge protector will only take care of spikes and surges in your unreliable power lines and an ordinary battery pack may not have the speed to kick in whenever voltages drop. What you need is something called an "Uninterruptable Power Supply (UPS)." There are many on the market and several manufacturers have advertised in this magazine. Look for one that offers protection from surges, spikes and voltage drops.

Q: I recently modified WordStar and now can't get anything to work. Triple striking (boldface) looks like this:
HHHEEELLLPPP!!!
If I underline and boldface something, it looks like this:
W_W_W_I_I_I_Z_Z_Z_
Can you recommend a decent speech therapist that can put an end to this stuttering?
A: III ttthhhiiinnnkkk III kkknnnooowww wwwhhheeerrreee yyyooouuu wwweeennnttt wwwrrrooonnnggg...

It looks like you've incorrectly installed the Okidata printer as a "Teletype-like printer with backspacing." The Okidata cannot perform a backspace—it overstrikes by finishing out the complete line then coming back over it again. A TTY Backspace driver causes the printer to immediately attempt to backspace in order to restrike the character. No such luck with the Okidata—it ignores the backspace and repeats the character one space ooovvveeerrr...

For dot matrix printers use the default "Teletype Like printer" driver.

TTY Backspacing is used on printers that are unable to perform a carriage return without a line feed. The Smith Corona TP-1, several Radio Shack daisy wheel models and all IBM Selectrics modified as I/O's fall into that category. The backspacing enables the character to be immediately overstruck before the end of the line is reached. While we're at it, here's what happens when those kind of printers use the incorrect "Teletype Like driver" and the boldface command:

We're off to see the Wizard
We're off to see the Wizard
We're off to see the Wizard

The line repeats three times because the printer was unable to deliver a carriage return without a line feed. Also, single struck text will be double spaced.

Not related to your question but helpful to know is that carriage returns (0D hex) and line feeds (0A hex) are two separate codes sent by WordStar. If your printer has a dip switch that says something like "automatic line feed upon carriage return" turn it off because Osborne software is already handling the line feed. The same symptom as above will occur when driving printers with automatic line feed turned on. GGGooottt iiittt???

Q: Why is it that I get the message "BIOS error device PRNTR not ready, unassign this device (Y or N)?" whenever I try and print something out to my parallel printer from the Executive? I get a few lines of printout before it stops and asks me that question.
A: The Executive thinks you have a serial printer and parallel printer on line. Unlike the Osborne 1, both serial and parallel devices may be selected simultaneously in the Executive's SETUP menu. In other words, the serial device may be assigned and the Centronics device may be assigned. On the Osborne 1, only one or the other could be assigned.

Use the Executive's SETUP program to unassign the serial device on the software that you're printing with, which is what answering "Yes" to the BIOS error message does (but only temporarily). You will not have that problem again.

Q: I have an Osborne 1 with the 80-column SCREEN-PAC option. With dBase II (2.3b) the video display jumps around when the cursor is positioned at column 50 or so regardless of the screen size selected. Is there a fix?
A: Yep, and here it is:

1) Place the DDT program in drive A.
2) Place a copy of dBase in drive B.
3) Execute the DDT program by typing:
   DDT B:DBASE.COM
4) Enter the following instructions

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exactly in the order in which they appear:

```
S0130   ⟨cr⟩
01      ⟨cr⟩
.       ⟨cr⟩
S0154   ⟨cr⟩
50      ⟨cr⟩
.       ⟨cr⟩
S395A   ⟨cr⟩
C9      ⟨cr⟩
.       ⟨cr⟩
^C
SAVE 70 B:DBASE.COM
```

DBase should now work with SCREEN-PAC.

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660" error message. After trying everything I could think of it still doesn't run right.

Where's the bug, Wiz? In my MBASIC software or the *Portable Companion?*

A: Gotcha. The error is in your ever so slightly miscopied listing.

Just about every program published in the *Portable Companion* generates a few inquiries that we made a mistake someplace. We understand how easy it is for someone to miscopy a program listing from a magazine or book—it happens to everyone except those people with bionic eyeballs. All it takes is an absent or misplaced comma, semicolon, quote, or whatever to send a program off into never-never land.

The complaint with line 660 in "Graphics Screenwriting" was interesting due to the large number of readers making the identical error in copying the program. As it turns out, the mistake was easy to make, but difficult to debug. Here's the story.

An illegal function call in 660 means an out of range parameter has been passed to the string function in line 660. Line 660 returns a numerical value that is the ASCII equivalent of A$. The value is then assigned to A. A$ can equal any keyboard input including carriage return and arrow key input.

Enough analysis: check line 590 to make sure the double set of quotes after the A$= DO NOT have a space between them, as in:

```
590 A$=INKEY$:IF A$="" THEN
590
```

If it looks like this,

```
590 A$=INKEY$:IF A$=" " THEN
590
```

the program never allows keyboard input. Without keyboard input, no value is assigned to A$. The range parameter is non-existent and therefore out of range.

Q: Is there a command to hide a certain category of files on my hard disk directory? How about a command to search for a select group of files? I'm finding it difficult to wade through 200 plus directory listings searching for a particular file when I can't remember the exact name.

A: CP/M 2.2 and CP/M Plus (Version 3) offer methods on making out or searching for any group of files, although they're not well documented. These commands are invaluable for hard disk usage when dealing with large quantities of files, and also prove helpful on Osborne double density systems. Some of these commands were discovered by trial and error. Examples of the directory search commands:

DIR Commands

CP/M 2.2 & PLUS

```
DIR *.ASM
```
Directory for all .ASM files.

```
DIR 7/11*.*
```
Directory for all files beginning with 7/11.

```
DIR *.
```
Directory for any file not having an extension. (Good command to search for text files as long as they don't have extensions.)

```
DIR B:WIZARD.*
```
Directory for any WIZARD file. Also shows proper placement of drive identifier.

```
DIR D:WHEREAM.I
```
Looks to see if that file is on the D drive.

CP/M PLUS only

```
DIR B:[SYS]
```
Directory of SYS attribute files (explained later).

```
DIR [EXCLUDE] B:*.COM
```
Excludes COM files from the listing.

```
DIR B:[ALL]
```
Shows all files regardless of SYS attribute.

```
DIR B:[USER=(1,2,3,5)]
```
Directory of files on user areas 1,2,3 and 5.

```
DIR [DRIVE=ALL USER=ALL] JACK.BAS  JACK.TXT
```
Searches all drives and all user areas for the files named JACK.BAS and JACK.TXT.

There may be situations in which you never want to see a file on your directory listing. The following commands result in hiding, or masking, the selected files from the directory by setting what's called the SYS attribute. The DIR command then shows all the files excluding the SYS files.

SET and STAT Commands

CP/M 2.2 only

STAT B:*.COM $SYS
Hides COM files from the DIR command.

STAT WS*.* $SYS
Hides all files beginning with WS from the DIR command. (WS are the first two characters of every WordStar COM or overlay file.) Note that multiple STAT commands can be used on a single diskette hiding several categories of files (e.g., COM, OVL and ASM files).

STAT B:MOTHER.* $SYS
Tough guys use this to hide letters to mommy. As an aside, CP/M Plus does allow password protection for individual files on a diskette:

SET [PROTECT=ON]
SET BOOKIE.123 [PASSWORD=LAS/VEGAS]

STAT * * $DIR
Sets the files back to the default DIR attribute.

CP/M Plus only

SET *.COM [SYS]
Hides COM files from the DIR command. Use the DIR [ALL] command to show all DIR and SYS files on diskette.

SET * * [DIR]
Resets the default DIR attribute for all files.

Q: On my 52-column WordStar screen, the INSERT ON message appears off the screen. Is there a patch to move it over a couple of spaces so it can be seen without scrolling?
A: Yes, and it's easy to do. Using WordStar's INSTALL.COM program, patch WS.COM at address 0249 with a 4F (former value 50). Using INSTALL is explained in the Osborne manual. You may recognize that 0249 is the address for label WIO:, here some users patch in a 7C to get a longer line length.

Q: How do I generate a break signal in order to interrupt data transmission when on-line with my office's mainframe? I'm using an Osborne 1 and Hayes Smartmodem.
A: The method of generating a break I'm most familiar with is performed by Image Sales' little blue box aptly named "Osbreak."

Osbreak is an Osborne-1 modem port interface adapter that allows the user to manually generate a break signal by pushing a button located on the front panel. The transmit line is pulled low for as long as the button is pressed; generally, three seconds is sufficient to create a proper break signal. Because the device is connected to the modem port, two RS-232 compatible peripherals (such as two printers or one printer and a modem) can be attached to the Osborne 1.

Osbreak designer Stephen Stimac says he's working on a software controlled break signal.

For more information contact: Image Sales, Suite 200, 2442 NW Market Street, Seattle, WA 98107.

Q: Several different character sets are built into the standard ROM character generator on the C.Itoh 8510A printer. I heard a rumor that the character sets can be further increased by installing an additional 2K RAM on the printer's main logic board and the use of escape sequences. How is this done?
A: Downloading character generation is described in a 26 page instruction manual available from C.Itoh Electronics and possibly the C.Itoh sales outlet. Obviously too lengthy of a process to describe here, it basically involves: 1) decreasing the data buffer in RAM so the downloaded character set has room; 2) loading the fonts using the ESC ^, lead load address, end load address, character data sequence; 3) set the leading address to the control pointer.

Included in the booklet is a listing of a 314-line character generation utility program which would supposedly simplify the process.

Several companies are presently developing character generation software but with a wider selection of printers to choose from. I tested one such package (operating under the P-system) with an Epson Graftrax and it worked beautifully. Undoubtedly, there are companies out there working on this that will soon have products on the market.

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but, since string variables are limited to 255 characters and since the fielded variable is a string, MBASIC replies to such a statement with a resounding "Illegal function call." Your solution will work as long as your array takes up fewer than 256 characters as a string, but what to do with even larger arrays?

My solution is to successively "refield" the buffer, thereby inserting data into it one segment at a time, for I have found that it is not necessary to immediately extract a temporary variable and build the string outside of the buffer. As you noted the following sequence will not work:

```
500 FOR X-1 TO 50
510 FIELD#1,10 AS NUM$(X)
520 NEXT X
```

But the following sequence will:

```
500 FOR X=0 TO 49
510 FIELD#1,X*10 AS
MASK$,10 AS BNUM$
520 LSET BNUM$=NUM$(X)
530 NEXT X
```

This sequence inserts data into the buffer 10 characters at a time. The accumulated data can then be written as one record.

There are several advantages to this method. By using several buffer masks (to cope with the limitations of 255 characters per field) you can write records as long as your system will support. And it avoids the need for the string subroutines to extract and insert data. I have written records as long as 1024 characters.

Catherine Wildermuth
Austin, TX

Scrolling, ups and downs

When I was a beginning WordStar user, I found Walter A. Ettlin's book, *WordStar Made Easy*, very helpful. I was glad to see you published an abbreviated and Osborne-specific command sheet of this sort, by Edward F. Leddy, in the Feb/Mar issue.

However, there is a mistake in Ettlin's book that has found its way into Leddy's summary too, so I thought it worth mentioning.

The problem is that in listing the four basic scrolling commands, two of them have gotten reversed. The single line scrolling commands are correct: ^Z—below the fingers on the keyboard—is to scroll down one line, and ^W—above the fingers on the keyboard—is to scroll up one line. Fol-

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Printing the special function keys

How to keep track of your arrow and control number keys

Norman Dresner

While staring blankly at the screen of my Osborne 1, trying to remember exactly which control number key was "ERA *.BAK", I knew I needed a utility program that didn't exist, one that would give me a listing of the control keys for each bootable disk.

The MBASIC program provided here will print the currently defined arrow and control number keys on a printer (see Sample Printout). The vertical dimension of the listing is short enough to allow it to be cut and pasted on a 3x5 index card. As long as the cards are handy, (we keep them with the disks in the storage slots so they'll never get far from the machine) I'll never have to guess again.

To use DISKKEYS.BAS

Type the listing as shown, either in MBASIC or using the non-document mode (N-command) of WordStar. To save time, leave out the remarks. Some changes are suggested later that might help the program best fit individual needs.

Copy DISKKEYS.BAS onto a disk containing MBASIC, place it in Drive B and reset the machine. Place any bootable disk whose keys are to be printed in Drive A and hit <CR>. If the AUTOST program automatically runs a program, exit to CP/M (via the X-command in WordStar, /QY in SuperCalc, etc.). Note: Since WordStar modifies the normal CP/M environment when a program is run using the R-command, the method of finding BIOS in line 230 will not work if MBASIC is run from WordStar.

MBASIC.COM (if it's there) on the bootable disk is usable only if it has not been modified by MANYKEY to define its own control keys. (If it has, the copy on the B-drive must not; use NOKEYS.) Turn on the printer and type:

B:MBASIC B:DISKKEYS

MBASIC will automatically run DISKKEYS. Respond to the DISK NAME? prompt with the name of the disk in Drive A. After the program has run, type SYSTEM to return to CP/M. To do more than one disk: On a 1.4 or later Osborne 1, it is necessary to start from a cold boot (reset), or run the SETUP program, in order to install the keys defined by each new disk; on a 1.3 machine, typing a ^C between disk changes is sufficient.

What DISKKEYS.BAS does

Lines 160-210 just define the arrays and constants needed. Line 220 defines a function to get a 16-bit word address from memory at a specified starting address. Line 230 establishes the address of the first pointer in the control number table.

Lines 250-290 read the pointer table. Each pointer's value (AOLD) is stored in the array ADR and the value of the next pointer is retrieved as the new value of AOLD. Then the length of the character string is computed as the difference between the value of the next pointer and the value of the current one and stored in array LNG.

Lines 300-310 input a string from the user to be used as the title of the listing.

Lines 330-530 are a FOR-NEXT loop to print the key-definitions. Line 340 prints the heading for the line and line 350 initializes the address of the character string for the I-th control number key.

Lines 360 through 510 are a FOR-NEXT loop that process each character of the string separately to allow all characters to be printed as printable ASCII characters, even the normally unprintable control characters. Line 370 gets the current byte and increments the address counter. If the character is a printable ASCII character, i.e., its value is greater than or equal to the value of the first printable character, the blank or space whose ASCII code value is 32 (decimal) or 20 (hex), is assigned to the string C$ which is used to print the representation of each character at line 500. If it is a control character, lines 430-490 are used to assign a printable value to C$, 430-470 for the special characters <CR>, <LF> and <ESC>, and line 490 is for all others.

Line 520 terminates the current line by printing the carriage return and line feed (CR-LF) on the printer.

Lines 560-680 determine which set of arrow keys is defined. The two standard sets are the CP/M and the WordStar arrow keys, but other sets can be defined, either with DDT or with the use of the POKE instruction in MBASIC. An arrow key set is certainly non-standard if any of the arrow-key strings are longer than one byte, and the FOR-NEXT loop at 560-570 checks

```
10 '                DISKKEYS.BAS
20 ' an MBASIC program to print the currently
30 ' defined arrow and control-number keys for the
40 ' Osborne 1(tm) rev 1.3 to 1.44
50 '
60 '   COPYRIGHT (C) 1983  CompuMagic, Inc.
70 '   Permission is granted for personal use
80 '
90 '  notes: 1. this program will not run properly
100 '         if MBASIC is run from the WordStar (tm)
110 '          R command
120 '         2. this program will not print the
130 '            disk's keys if MBASIC.COM has
140 '            been modified by MANYKEY(tm).
150 '
160  DIM ADR(14), LNG(14), CK$(14), TITLE$(50)
170  DIM AKS(4), CPM(4), WS(4)
180 FOR I=1 TO 4 : READ CPM(I):NEXT I
190 FOR I=1 TO 4: READ WS(I):NEXT I
200 DATA &H0B,&H0C,&H0A,&H08,&H05,&H04,&H18,&H13
210 CK$="0123456789^>v<"
220 DEF FNA(I)=PEEK(I)+256*PEEK(I+1)
230 A0=256*PEEK(2)+&H6B
240 AOLD=FNA(A0):' get first pointer
250 FOR I=1 TO 14
260     ADR(I)=AOLD:A0=A0+2
270     AOLD=FNA(A0)
280     LNG(I)=AOLD-ADR(I)
290 NEXT I
300 LINE INPUT "DISK NAME? ",TITLE$
310 LPRINT TAB(10);"DISK KEYS for : ";TITLE$:LPRINT
320 ' 1 TO 14 IF SEPARATE ARROW KEY LISTING DESIRED
330 FOR IKEY=1 TO 10
340     LPRINT TAB(10);MID$(CK$,IKEY,1);":";
350     CK=ADR(IKEY)
360     FOR ICH=1 TO LNG(IKEY)
```

```
370       CH=PEEK(CK):CK=CK+1
380 ' this code assumes no char will be >127, i.e.
390 '  there are only valid ASCII chars
400       IF CH>=&H20 THEN C$= CHR$(CH):GOTO 500
410 'control character handling
420 'if <CR>, print it as such
430       IF CH<>&HD THEN 450 ELSE C$="<CR>":GOTO 500
440 'if <LF>, do it too.
450       IF CH<>&HA THEN 470 ELSE C$="<LF>":GOTO 500
460 'if <ESC>, do it also
470     IF CH<>&H1B THEN 490 ELSE C$="<ESC>":GOTO 500
480 'any other control char is printed as ^letter
490       C$= "^"+CHR$(CH+&H40)
500       LPRINT C$;
510       NEXT ICH
520      LPRINT
530 NEXT IKEY
540 '  see which control keys are defined
550 '  first check for non-standard one
560 FOR IKEY=11 TO 14:IF LNG(IKEY)<>1 THEN 680
570 NEXT IKEY:'all arrow keys are 1 byte long
580 'get each arrow-key byte
590 FOR AK=1 TO 4: AD=ADR(11)+AK-1
600       AKS(AK)=PEEK(AD): NEXT AK
610 ' see if they're CP/M keys
620 FOR I=1 TO 4: IF AKS(I)<>CPM(I) THEN 650
630 NEXT I: AK$="CP/M":GOTO 690
640 '  try WS keys also
650 FOR I=1 TO 4: IF AKS(I)<>WS(I) THEN 680
660 NEXT I: AK$="WordStar": GOTO 690
670 '  non-standard arrow keys
680 AK$="Non-Standard"
690 LPRINT:LPRINT TAB(10);"Arrow Keys : ";AK$
700 LPRINT
710 END
```

for this. The FOR-NEXT loops at lines 620-630 and 650-660 check the currently defined arrow keys against the pre-defined CP/M and WordStar standard sets. Once the string AK$ contains the correct arrow-key description, line 690 prints the arrow key line on the printer and the program terminates.

Technical background

The Osborne 1's BIOS (Basic Input/Output System), the machine-dependent portion of the CP/M operating system, uses two tables to define the user-programmable control keys. The first, containing the pointers to the actual text, starts 6B (hex) bytes after the beginning of the BIOS itself (at least in all 1.3 and 1.4 machines). The location of the second table, containing the text, varies with the particular revision of the Osborne and the installed options, but can be easily found since the first pointer in the table always contains the address of the start of the text.

Changes that might be needed

To print the characters for each individual arrow key separately, change line 330 to "FOR IKEY = 1 TO 14".

If there is a control number key defined with a character string longer than 50 bytes (assuming 10 characters/inch), and the listing must fit on a 3x5 index card, add the line:

365 IF ICH = 49 THEN PRINT

This keeps the length of the printed line short enough.

Sample output from disk keys

```
DISK KEYS FOR : MBASIC Disk
0:RUN<CR>
1:LIST
2:EDIT
3:CONT<CR>
4:GOTO
5:MBASIC /S:256 /F:5<CR>
6:THEN
7:GOSUB
8:INPUT
9:RETURN
Arrow Keys : CP/M
```

Software for attorneys

Cheryl Peterson

The potential of the Osborne computer is nearly limitless for business applications, and the purpose of this column is to help you as business people realize that potential. I intend to answer in these pages questions about investing in hardware as well as software, and to help you learn from the examples of others who have found successful and profitable ways of fully utilizing their portable business machines.

In some cases—this month's column a case in point—this will mean introducing you to someone who has developed his own software.

On occasion, I will devote a column to one particular application and compare the appropriate software that I have been able to obtain. The software packages discussed will not include every simular program. Rather, I will attempt to use a representative sampling.

I welcome comments and suggestions and although I will probably be able to give individual replies only rarely, I do plan to read my mail. I want to make this column as responsive to YOU as possible. You may write to P.O. Box 398082, Miami Beach FL 33139.

Now, consider this scenario:

A former computer programmer and systems analyst has spent four years working for a city—developing, designing and implementing a medium- scale computer system. And spent seven years at an insurance company providing hardware and software technical support, along with helping with staff administration and standards development. And has earned a Juris Doctor degree as well.

How could someone combine these many talents?

If it's Ron Brenner, of Coconut Grove, Florida, he comes up with a management system for lawyers.

First Brenner found a computer he thought was suitable, namely the Osborne: inexpensive, portable, with decent software applications programs and easy-to-learn features. Then there were the long hours spent devising an effective law practice record-keeping system. After customizing to make the average legal secretary appreciate its time- saving features, voila! the *"Attorney's Money-$- Machine"* —*AM$M*—was born.

The AM$M system is comprehensive. Brenner claims it can pay for itself in just a year. He says that an attorney who does $20,000 worth of business annually and who usually receives his money a couple of months late could recover the cost of the system in less than a year by charging 15 percent interest on late payments, not an unreasonable amount considering present interest rates. The AM$M can handle all client billing for the attorney as well as automatically add the monthly interest charge.

The billing system tracks hours of work done in each client's behalf, as well as date, type of work done, charge per hour and a total. It recaps the last month's charges, subtracts credits due, adds interest on any overdue balance and delivers a total Balance Due.

All this information can be printed on office letterhead. It can be previewed for adjustments and

Cheryl Peterson runs an electronic consulting business and is a freelance writer. A member of the Gold Coast Osborne Group for about a year, she edits the group's newsletter. She is a frequent contributor to the Portable Companion, *and with this column becomes a regular contributor.*

a report of outstanding accounts can be generated. The report shows aging of accounts: current, 30- day, 60-day and 90-day outstanding.

The system is completely menu-driven and has easily understood commands. A feature aimed straight at the heart of a law practice is the automatic fee agreement option. In minutes, a new client can look at the proposed fee agreement and negotiate it if necessary; any adjustments can be made and the client can sign immediately. No time wasted.

Of course, since the Osborne computers come with WordStar and MailMerge, standard forms and documents can be prepared simply and easily. Revisions become a snap. Common text, such as certificates of service, legal descriptions and case styles, can be entered once and inserted into all related documents.

With the WordStar program, legal documents like wills, liens and pleadings from master forms are easily prepared.

Brenner demonstrated the system by preparing and printing the forms necessary to incorporate a business in the state of Florida. It took about 15 minutes to gather the information, input it and print it. And he's not a whiz on the keyboard.

The system, including double-density Osborne 1 and a C.Itoh letter quality printer, is $5,995. The software alone is $1,800. Unless a practicing lawyer, a user would find it hard to know whether that is a fair price. Business software can be expensive; customized software even more so.

One true test of a software's merit, however, is whether it gets used. As an attorney, Brenner uses his system. And he says it works. He licenses the software to individual attorneys and guarantees to provide the support necessary to get it up and running. He maintains support is a very important factor in purchasing software.

Brenner says having expert consulting services at your disposal if questions arise determines how effective a system can be. "Support spells the difference between success and failure in the acquisition of a computer system," he says. "Because of this the Money-$-Machine is sold with an obligation to provide you with support."

The system is available through Brenner at 3025 Mary Street, Suite 10, Coconut Grove, FL 33133. You may also contact him at (305) 446-1461. Dealer inquiries are welcome.

Next month: Creating a database using three different programs; organizing diskettes; and a brief word or two about "my kind" of printer.

continued from page 16

lowing this logical layout, ^C, down there with Z, is for scrolling down a screenful and ^R, up there with W, is for scrolling up a screenful. Somehow these latter two commands have gotten reversed in these publications. For the hapless beginner this must cause no end of confusion.

Now a question: Has anyone come up with a way to get WordStar to give you the number of words in a document? In non-document mode, or with the page-break display turned off in document mode, it gives a count of the numbers of characters in the file, and certainly it knows what a word is (hence that handy word-wrap feature we all know and love). A word-count would be useful when preparing a document with an upper limit.

Roderic Knight
President, ^OB^OS Group
Oberlin, OH

Well readers, any solutions to share?

UTE available

I have an Executive computer and love it. I was glad to hear that you are reorganizing the company for a comeback. My question is what does the Chapter 11 mean for the UTE software that was promised to me with my system. Is my UTE coupon any good?

Charles Durin
Fremont, CA

Yes, your UTE coupon is worth something; $50.00 off the price of the "Exeterm" Universal Terminal Emulation package sold by JMM Enterprises. The story behind the UTE package goes like this. Osborne never had a UTE package that worked the way it was supposed to. When we entered Chapter 11 we were prevented from buying a UTE package, as well as giving anything away for free (giving things away for free is one of the things that got us in Chapter 11). Our German subsidiary found a package developed in Germany that worked very well, so he bought distribution rights to it. Keep in mind that our German subsidiary is a separate company and is not in Chapter 11. Next came the problem of getting it translated and offering it to the Executive user base. Enter JMM, who had the resources to translate the package, develop documentation, and provide a distribution channel to the users, but for a price, not for free. We were able to arrange a $50.00 price break for any Executive owner who had the original UTE certificate. Even though the UTE package is not free, it works, and it's available. In that, we have achieved a major goal.

Tracking "jerks"

I was interested in the article, "Osborne in Blue," in User Groups in the July issue (page 58). I operate the evidence lab for the Great Falls Police Department. Back in December I became interested in incorporating a computer in the lab to assist in the search of criminals' fingerprints. By coding the fingerprints of certain repeat offenders a computer search could be made for prints similar to a latent print taken from a crime scene or off a piece of evidence.

I researched a number of systems for filing single fingerprints and settled on an old method from Scotland. Originally intended to be used with index cards and not to be used for classifying individual prints but rather for latent fingerprints, I had to make some changes to use the system with dBase II. A coding arrangement was finally worked out. In addition to a person's fingerprint patterns, physical description and any personal anomalies were made part of the file.

A city like Great Falls does not have thousands of criminals to worry about. With a population of about 60,000 I'm interested in keeping track of about 300 full-time jerks. My system was put to work about six weeks ago. As of this date I've put 170 people in my dBase file and I'm adding to it continuously. While my use of the Osborne doesn't approach the scale of that described in the other article, it has paid for itself. This week, my investment identified the owner of a fingerprint taken from a residence burglary. The owner of the house had returned from vacation to find $7,200-plus of stereo equipment and property gone. By making a quick arrest of the burglar we expect to make a full recovery of all the stolen property.

One hundred seventy people times 10 fingers equals 1,700 fingers I didn't have to look at on an individual basis. A few seconds worth of typing and the computer gave me a list of about 10 people and told me which of their fingers I should look at. Quite a time savings.

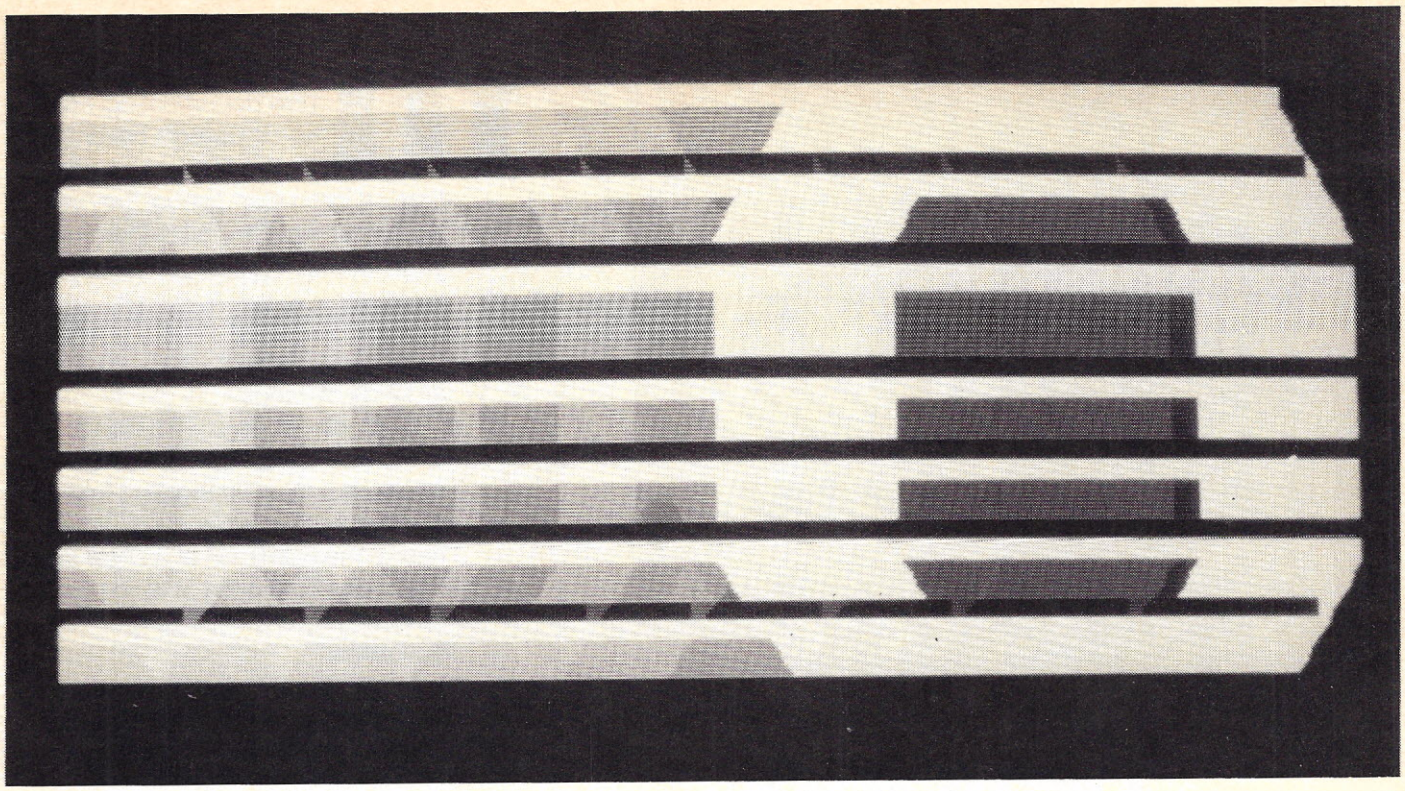
Jeff Poulsen
Great Falls, MT

p-system not ready yet

When will I get my p-system for the Ozzie 1?

Jim Grinell
NY, NY

Osborne Computer Corporation is in negotiations with Softech to find a plan whereby the p-system will be offered to the owners of the Osborne 1 double density computer. Most likely, it will be offered through another group than Osborne, such as Softech, and will cost some amount of money. We apologize to all double density owners that the p-system will not be free, but the choice is, make it available for a price or don't make it available. As soon as we have more information on when the p-system will be available, we will let you know.



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PC 12

beyond the joystick

Exploring the brave new world of educational software for children

Cheryl Peterson

Modern psychologists are now documenting what some parents have known for years: by the time children start school they've wasted some of the best learning years of their lives. More children are turning on their parents' computers—at an earlier age—to learn all kinds of things.

Computer shows can be an exercise in frustration for many adults, but most youngsters take to computers like fish to water. I overheard one salesman at a show say "Oh, I don't mind the kids so much. At least they ask intelligent questions."

In keeping with the tradition of intelligent questions, several good learning programs are available for the Osborne. These programs fall into four categories: math and programming tutorials, letter recognition drills and guessing games.

Most of the programs are meant to be used with adult supervision. Most are also menu-driven. Some can be edited to provide a wider variety of information. This helps avoid boredom, the biggest adversary to learning.

Of the math programs I've tried, Kidmath stands out as a real gem. Menu-driven, on a single diskette, this program drills a student in addition, subtraction, multiplication and division on five different levels of difficulty. There are two different modes, regular drill and test/reward.

In regular drill mode a correct answer is rewarded with a happy face. Pressing the "S" key at that point shows the student's score. Any other key continues the program. An incorrect answer will generate a sad face on the screen. The student can then redo the problem. Once again a happy face will respond to a correct answer. Two sad faces will appear if the guess is wrong and a message will ask for another try. With the third wrong answer, three sad faces appear and the correct solu-

tion is displayed. The program then routes the student back to the menu for a selection within skill level.

In test/reward mode, twenty questions are generated and correct answers to all the questions builds a complete portrait of a computer. After each correct answer, one line is added to the picture. The last line contains a random "reward" number. The program also reports the number of right and wrong answers below the completed graphic. These numbers can be used as an incentive in several different ways, as suggested by the authors. If a question is missed more than twice however, the program exits back to the start menu.

New modules are planned and Smallsoft offers updates for a reasonable rate to those who return their end user agreement. This program's documentation is excellent. A bit of work is involved in creating a working disk, but the step-by-step instructions move the process along quickly enough. At $37.50, Kidmath is not overpriced.

With the third wrong answer, three sad faces appear and the correct solution is displayed.

Another math drill program is contained on Edu-Disk 1 from George H. Taylor. Taylor's disks (Edu-disks 1 and 2) each have three programs. They sell for $15 each. The math program is a flash card type aimed at children ages 5-10. The calculation appears on the screen in big block numerals. If the correct answer is keyed in, then the large block numeral representing the correct result appears in the proper place on the screen.

```
 5  answer    5  answer    5
-2   (4)     -2   (3)     -2
                             3
```

Otherwise, nothing happens. All answers are one- or two-digit numbers.

Edu-disk 1 (like several others) also contains an ABC's program. This one prints the upper case letter on the screen when a key is pressed representing the letter. If another letter or number is pressed, the present one scrolls off the screen. Then the new character appears.

Adam, Inc.'s AlphaEd also contains both math and alphabet programs. The math problems are timed in terms of long, medium or short computation time by student's choice. The student may choose single digits only, single and double digits, or double digits only. The score is displayed when the escape key is pressed. An encouraging message appears when an answer is correct, and the program includes 20 different ways of saying the answer is wrong.

More children are turning on their parents' computers —at an earlier age —to learn all kinds of things.

AlphaEd contains several alphabet practice drills, including letter recognition, alphabetic order, and alphabet practice. "Display letters and numbers," one option from the Main Menu, does just that. A key is pressed and an upper case version of the symbol on the key appears on the screen. This is a very good way for youngsters to become familiar with the placement of letters on a keyboard. Parents, can enter words of up to eight letters for the child to identify. Until the carriage return is pressed the letters will remain on screen.

The practice options do what the names imply. Alphabet practice expects the student to progressively press the letter keys in the standard A-Z order. Alphabetic order asks for normal or precedence order and for how long to set the timer (same options as in math program). It randomly displays a letter and waits for the student to key in the letter that either comes before or after the one displayed. Letter recognition displays a capital letter and waits for the appropriate key to be pressed. If the correct answer is chosen the capital and small letter are displayed and flashed 7 times. (I found the flashing and the accompanying bell annoying.)

All of these practice drills keep score, reporting the number of problems, number of correct answers and a letter grade (A+ to F-) at the end — a nice feature for those who approve of the standard grading scale. Instructions indicate that the data files accompanying the program are editable, but I have not tried to do so. I did try to rename the command file AUTOST.COM, as the directions suggested. I got a "File is READ ONLY" error message. This is only a minor inconvenience, however. At $15.95, this software is a good deal, even if it won't autostart.

Another interesting program with math and letter recognition is "Ghost in the Chimney" by Wizard of OsZ software. Before starting the game, a math or letters option must be chosen. This game has a graphic of a ghost caught in the chimney of a haunted house. Each correct answer moves the ghost closer to the top of the chimney. Incorrect answers drop it down. Lightning strikes and a question appears, either an elementary math problem or a letter to identify. All answers are one key only. The game continues through 50 questions, or until the ghost gets up the chimney. Score is kept and the quiz, with the player's answers, can be reviewed to determine where the child has trouble. New quizzes can be written and complete instructions are given on how to use them.

Also on this disk is a game called "Dingo the Cookie Goblin." This is a great way to teach children addition and subtraction. The child first chooses how many cookies (up to 20) to bake. The cookies are baked. Then after Dingo appears, the program asks how many cookies to feed him. The cookies appear in Dingo's stomach and disappear off a tray. The adult can then emphasize that the cookies were subtracted from the tray. The program then asks if Dingo can have more. If so, the cookies are taken off the tray and put in Dingo's stomach with the other cookies already there, showing both subtraction and addition. With proper adult supervision this game is an excellent way to get beginners to learn math. The third game on this disk, Supermind, is aimed at kids of high school age or adults, and is patterned after the popular game "Mastermind." My only wish here is that the disk were a little less expensive. It goes for $50 (including all three games), but it does teach valuable lessons in an enjoyable way.

Programming basics are taught by Tutor on Edu-disk 1. This program runs step-by-step through the commands and functions used in MBASIC, outlines syntax, explains constants and variables and tells how to write a program. The program assumes zero knowledge of programming in BASIC. This in combination with Mathtest and ABCS is easily worth $15.

Taylor's Edu-disk 2 also has three games programs: Hangman, Maze and Memory. The first two are just what their names imply, the standard Hangman word game, and mazes of varying complexity. Memory is a version of the game "Concentration." It can be played with either letters or symbols. Each player reveals two blocks at a time. If the symbols match, another turn is given. If not, it is the other player's turn. This disk is also $15.

Dingo the Cookie Goblin is a great way to teach children addition and subtraction.

Arctic Subwars by Jones Software Systems is in a class all its own. The disk I bought came with no instructions and programs written on both sides. I made copies on two disks and eventually figured out how to get them to run: put side A in Drive A, side B in Drive B and boot up. Then the game can begin. First, a selection if displayed of categories for quizzing:

Know Your Osborne
Word Meanings
Elementary Arithmetic
Assembly Language Programming
BASIC Language Pro-Gramming by Microsoft
CP/M Operating System For Your Osborne

The questions appear across the top of the screen. The three possible answers are ranged down the left side of the screen. A submarine drops down the right side of the screen; the object is to shoot the right answer. The submarine keeps diving over and over until the correct answer is hit. The longer it takes, the fewer points received. When enough answers are shot, the score is shown.

To play the games on side B, press RESET, then boot the B drive by hitting the quotation mark. The menu will give the choices of playing Stamp, Faces, Blast or Words.

Stamp is a waste of time until players realize the arrow keys don't work. ^A and ^S must be used to change where the stamper falls. The questions are easy; hitting the correct answer isn't. Faces makes different faces until reset. Blast asks questions, disguises the answers as space ships on a game board and invites a shooting match. Tough! Computer related terms are displayed with one letter replaced by an asterisk; the task is to identify the missing letter.

The Arctic Subwars disk has one thing going for it. It's $5.

Following is a list of the only educational programs aimed at children that I am aware of. Write to the manufacturer for more information. I hope by this time next year, that will have changed.

Sellers of educational software for kids:

- WIZARD of OsZ
  P.O. Box 964
  Chatsworth, CA 91311
  Ghost in the Chimney
  Dingo the Cookie Goblin
  Supermind
  Game Disk 6—$50.00
- Jones Computer Systems
  PO Box 15550
  Pensacola, FL 32504
  Arctic Sub Wars $5.00
- George H. Taylor
  2625 Samarkand Dr.
  Santa Barbara, CA 93105
  Edu-disk 1 $15.00
  Edu-disk 2 $15.00
- Adam, Inc.
  PO Box 451
  Waukesha, WI 53187
  Alpha Ed $15.95
- Small Soft
  6808 Estrella Ave.
  Twentynine Palms, CA 92277
  Kidmath $37.50
- Computech
  PO Box 7000-309, Dept. MB-NR
  Redondo Beach, CA 90277
  The Math Teacher $39.95
- ChildWare Corporation
  1259 El Camino Real, Suite 145
  Menlo Park, CA 94025
  Write for information
- Dynacomp, Inc.
  1427 Monroe Ave.
  Rochester, NY 14618
  Teacher's Aide $17.95

Portable psychology

The Osborne proves ideal for psychological research in the laboratory and in the field

Andrew C. Coyne

One of the many tasks for which the computer is ideally suited is the study of human behavior. Psychologists have long employed computer technology, from the largest mainframe computer to the smallest microprocessor, as an aid in the presentation of research investigations and the collection and analysis of data. The computer has allowed psychologists a degree of standardization, automation, and flexibility in research that is unavailable through other means.

Thus the computer has been a welcome addition to the research lab, particularly when the behaviors studied are those of memory and perception, where a typical investigation may involve the repetitive presentation of hundreds of words, letter, digits, other other images to large numbers of individuals.

A particularly welcome addition to the Gerontological Research Laboratory (GRL), within Ohio State University's Department of Psychology, has been an Osborne microcomputer. The O-1 was recently purchased following a search for a full-capacity, truly portable microcomputer for use in psychological research involving older adults. At this time, the Osborne is being used extensively for the study of memory and perception abilities of older adults, both in the laboratory and in the community.

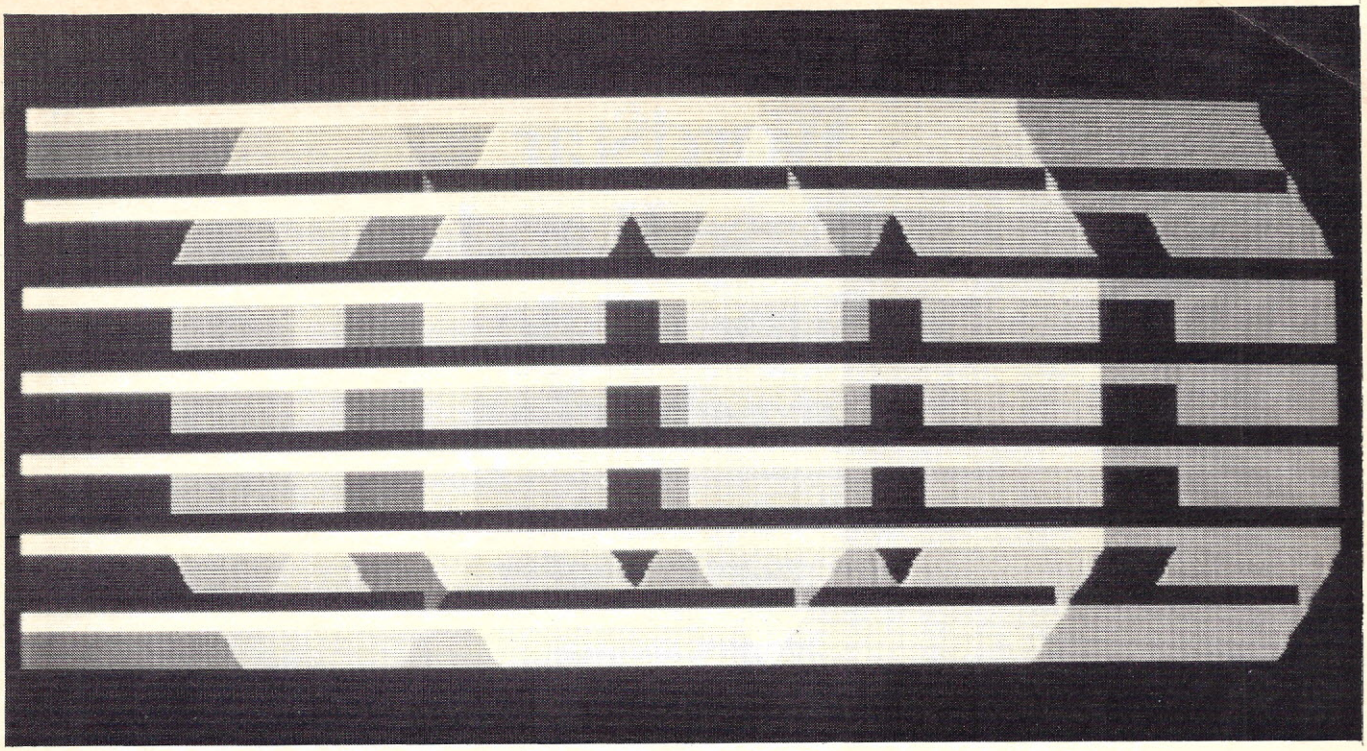
Remote keyboards and voice control

Several characteristics of the Osborne have made it ideally suited for psychological research. The first involves the implementation of the keyboard, which in reality is nothing more than a set of sixty-four normally open switches. At the GRL, we have been able to take advantage of this feature by adding a second keyboard and several "subject response buttons" in parallel to the main keyboard. As all keypress detection is done on the main electronics board, the Osborne treats these remote keyboards no differently than the main keyboard. This has greatly increased flexibility.

For example, two buttons marked "Yes" and "No" and wired in parallel with any two keys of the Osborne can be used to input a research subject's decision to an MBASIC program (via the INKEY$ routine).

Furthermore, by combining the remote keyboard and/or response buttons with an external video monitor, we have obtained a complete remote terminal for the Osborne at a fraction of the cost of buying a dedicated data terminal and without tying up the serial or parallel ports.

In addition, we have been able to utilize rudimentary speech input by wiring a voice-operated relay (a device which closes a relay when a sound is detected) in parallel with one of the keys. This has been particularly advantageous in dealing with measurements of reaction time among older adults, where vocal responses are often preferable to finger-press responses.



Presenting "live" stimuli

Another extremely useful feature of the Osborne has been the ability to horizontally scroll the screen. This has been extensively utilized in several perceptual studies in which multiple stimuli had to be presented in rapid succession. For example, one study required the presentation of a fixation point, followed by a three column by three row matrix of letters, followed by a word cue ("Top," "Middle," or "Bottom") to indicate which row of letters the subject must recall.

One method of presenting three stimuli (via an MBASIC program) involves printing characters on the screen, clearing the screen, and printing the next set of characters. This solution, however, has two major limitations. The first involves the relatively slow rate (by the standards of the human perceptual system) at which successive stimuli can be displayed (since printing characters and clearing screens takes time).

The second limitation involves the manner in which characters are displayed on the screen: the electron gun of the CRT "paints" characters on the screen from left to right and from top to bottom. When a complex stimulus such as a three column by three row letter matrix is displayed, this "painting" process is noticeable as well as distracting. The simplest solution to these problems was to make use of the Osborne's 128-character screen width and horizontal scrolling capability. The three stimuli were printed at three separate locations of the 128 character "screen."

Initially, however, only the fixation point was visible to the subject. The screen was then rapidly scrolled to display new stimuli located on other sections of the "screen." To the observer, it appeared as if the screen displays were instantaneously changing.

Bringing the mountain to Mohammed

Finally, the portability of the Osborne (even with a remote keyboard and external monitor added) has made it ideal for data collection in the field. It is no longer necessary for research participants to come to the laboratory to complete a study. Instead, the "laboratory" can be brought to them.

In conclusion, the Osborne has a number of features which make it easy to adapt to the laboratory environment. Several applications to psychological research have been described and other applications are limited only by the imagination.

Andrew C. Coyne, PhD, is an Assistant Professor of Psychology at Ohio State University. He is currently engaged in research and teaching in the area of human development and aging and has been using an Osborne 1 to facilitate both.

WordStar, dBase II and SuperCalc data sharing

Transferring data from one program to another

Schuyler W. Lininger, Jr.

Wouldn't it be wonderful if all those great programs for the Osborne could "talk" to each other? Some users no doubt already have an inkling that they can. This article outlines the easy interchange of data, either textual or numerical, between three of Osborne's most utilized programs: WordStar, dBase II and SuperCalc.

dBase II → SuperCalc

Converting between dBase II and SuperCalc may include either textual (alphanumeric) or numeric data.

```
STRUCTURE FOR FILE:      INC.DBF
NUMBER OF RECORDS:       00150
DATE OF LAST UPDATE:     00/00/00

FLD       NAME           TYPE  WIDTH     DEC
001   ACCOUNT             C     030
002   PREV:YEAR           N     010       002
003   YTD:SALES           N     010       002
004   PERCNT:CHG          N     006       001

** TOTAL **                     00056
```

A third type of data dBase II generates is logical and would not be of any use in SuperCalc.

As most of you know, textual data is handled differently by SuperCalc than numeric data. Before being entered, text must be preceded by a double-quotation mark ("). Numbers require no such delimiter and can be entered directly.

Consider a database with account information that needs to be entered on a SuperCalc worksheet without re-entering all the data.

This is how a sample database might look:

A typical record looks like this:

```
ACCOUNT    :Bigtime Customer                :
PREV:YEAR  :    3000.00:
YTD:SALES  :     300.00:
PERCNT:CHG: -10.7:
```

After the transfer of data from dBase II to SuperCalc you want the spreadsheet to end up looking like this:

```
    :A:                          :B:          :C:      :D:
1:  Customer Name      Previous Year  Year to Date   % Chg
2:  ================================================
3:  Bigtime Customer       3000.00        300.00     -10.7
4:  Another Customer       6000.00       3100.32      33.9
5:
```

This can easily be accomplished by creating a dBase command file, using the following steps:

1. Using WordStar (or MODIFY COMMAND in dBase II) create a non-document file called, for example, EXCHANGE.CMD. (If using WordStar, use the N command from the EDIT NO FILE menu).
2. Write the following command file:

```
* exchange.cmd 5/1/83 SW Lininger v. 1
ERASE
SET TALK OFF
* use your database
USE INC
* Set the pointer to the beginning of the database.
1
* Set up a disk output file.  The .xqt extension
* is for SuperCalc.
* Otherwise dBASE II assigns the default extension .txt.
SET ALTERNATE TO TEXT.XQT
SET ALTERNATE ON
* The following prints the initial data cell name for
* SuperCalc, any cell can be named.
? '=A1'
* Now output data in a series of loops.
DO WHILE .NOT. EOF
     * For text, SuperCalc requires double-quotes.
     ? '"'+account
     SKIP
ENDDO
? '=B1'
* Reset pointer to the beginning of the file.
1
DO WHILE .NOT. EOF
     ? prev:year
     SKIP
ENDDO
? '=C1'
1
DO WHILE .NOT. EOF
     ? ytd:sales
     SKIP
```

```
ENDDO
? '=D1'
1
DO WHILE .NOT. EOF
     ? percnt:chg
     SKIP
ENDDO
* Add a final carriage return in decimal
? CHR(13)
* Stop disk output
SET ALTERNATE OFF
RETURN
```

3. Load dBase II and type DO EXCHANGE.

4. QUIT dBase II and either examine the file TEXT.XQT with WordStar, or load SuperCalc. With WordStar, the file will look like this:

```
=A1
"Bigtime Customer
"Another Customer
=B1
        3000.00
        6000.00
=C1
         300.00
        3100.32
=D1
      -10.7
       33.9
```

5. After loading SuperCalc, set the pointer down. This is done by using the "down" arrow (^X) and then typing =A1<CR>. If this step isn't taken, the data will not be entered in columns. Type /X to initiate the eXecute command. When prompted for file name respond TEXT (the .XQT extension is assumed).

The beginning cell number can be changed. Depending on the need, data can be entered across in rows. If the application requires that, the arrow must be pointing right—it should look like this: >.

SuperCalc → dBase II

This might be a necessary interface for situations using a database with account data (e.g. store name, address, city, state, zip, phone, person to contact, etc.) that must be visualized on a spreadsheet. In fact, the data used in the previous example can be used again. Some businesses may like to know how well each account is doing in a given quarter compared with other stores. Additionally, they might want to rank accounts in descending order by amount sold, or in ascending order by percentage of growth, and so forth. One command that is not well documented in the dBase II manual is the ability to index in a descending fashion. To do

One command that is not well documented in the dBase II manual is the ability to index in a descending fashion

so, use the command INDEX ON -FIELD TO <filename>.

To have each account's record of monthly activity easily accessible in alphabetical order, a SuperCalc spreadsheet would be the best format. But, to sort and index in dBase II, the data must be in both places.

This can be easily accomplished with only one sitting of data entry. If beginning with a spreadsheet, begin with step 3. The database can be CREATEd now or later.

1. Produce a disk output that can be executed by SuperCalc with account names in alphabetical order (e.g. USE data, INDEX ON account TO alpha). Note the length of each database field.

2. Using the eXecute function, enter the data into SuperCalc as described above.

3. Enter the desired monthly sales information on the spreadsheet. Set up the necessary categories; e.g. first-quarter sales, total sales year-to-date, etc.

4. The categories used in both dBase and SuperCalc must be of the same type (either alphanumeric or numeric) and the same length (if database field is called QTR:1 and is nine characters long, the column in SuperCalc with 1st Quarter Sales information must be formatted exactly nine characters wide).

5. Switch off the borders (/GB) and output to a disk file the store names and the data to be added or updated to the database.

One possibility is to first save the entire spreadsheet, then reload only the values. Rows or columns of unneeded data can then be deleted. Finally, output the edited spreadsheet to a disk file.

Assume the new file is called TEXT. SuperCalc defaults to the extension .PRN. Any other extension must be specified.

6. Examine the disk file using WordStar. The output should be similar to below:

```
Aabacus Computers          333.88
Bill's Computer Store      785.00
Charlie's Computers       1999.77
```

These match the STORE and QTR:1 fields in the database.

7. Move into dBase II and USE the database. If it was not previously indexed to produce an alphabetical listing (i.e., if the output was produced using a sorted database), it must now be indexed on STORE.

8. Produce a second database with the STORE as one field and QTR:1 as another field (e.g. COPY STRUCTURE FIELD store,qtr:1 TO new). This new database will only have two fields with no data. It will be used to accept the SuperCalc-generated file and later for database updating. Obviously, if data is accepted into multiple fields, this new database must include all fields in the same order as the original database. To copy all the fields, use the command COPY STRUCTURE TO <filename>.

9. USE the new database and APPEND FROM text.prn SDF. (TEXT.PRN is the SuperCalc output file created earlier.) The SDF in the command line tells dBase II the datafile is in standard data format, i.e., each piece of data is separated by spaces and occupies the same amount of space as the accepting field.

10. Examine NEW.DBF. A listing of all store names, as well as the first quarter earnings should be included therein. If a spreadsheet or non-sorted data was used, the NEW.DBF must now be sorted on a key field. For this example, SORT ON store TO <filename>.

11. Now type the following command:

```
USE data INDEX alpha
UPDATE FROM new ON store REPLACE qtr:1
{------a------} {---b--} {-----c-----}
```

- **a.** This updates the database DATA.DBF from NEW.DBF which contains information appended from the SuperCalc file.
- **b.** The information in both databases must be related by a key (here, the STORE field). The USE database must be either sorted or indexed. The FROM database must be presorted on the same field; indexing won't work. The second part of the command line tells dBase II which field is the key.
- **c.** The final part of the command tells dBase II to replace the old field data (which may be blank) with the new field data. If desired, both old and new can be added together. In such cases, the word ADD is used instead of REPLACE. If the NEW.DBF has more than one field to ADD or REPLACE, the command line can be modified. ADDs and REPLACEs may be mixed and may have any number within the bounds of a 254 character command line.

WordStar → SuperCalc

Using the non-document (N) mode in WordStar allows the creation of files that can be accepted by SuperCalc, much as the dBase II files were. Examine the TEXT.XQT file above for formatting style. The eXecute command in SuperCalc will execute ANY legal SuperCalc command as it comes across it in a text file. The symbols v,^,<, and > can be used to instruct the cursor which way to move. The commands can be used the same as if within SuperCalc (e.g. /GM to set up manual calculation or /GB to remove the borders).

Text can be entered by preceding it with a double quotation mark ("). Numbers need no delimiters. Formulas for calculations can also be inserted. An example might be:

```
=A1
v
"ACCOUNT NAME
"Smith Homebuilders
=B1
```

```
v
"AMOUNT SOLD
6000.
=C1
v
"MONTHS THIS YEAR
6
=D1
v
"AVERAGE YTD
```

Instead of using WordStar, it is possible to create the command file on a SuperCalc spreadsheet and save it as a TEXT.XQT file for later implementation.

SuperCalc → WordStar

This procedure is explained in detail in the Osborne or SuperCalc manuals. Simply /O (output) the spreadsheet to a disk file. This file can then be read into a report being edited in WordStar with the ^K^R (read a file) command. The spreadsheet will then appear in the body of the textual material and can be further edited. One note of caution: if the document is only 65 columns wide (standard for letters), don't make the SuperCalc output any wider than 65 columns. Observance of this precaution saves editing time later.

dBase II → WordStar

As already discussed, the same techniques used in outputting dBase II data into a text file for SuperCalc can be used to output data (or a report) that can be edited by WordStar. Simply SET ALTERNATE TO (any filename, with the default extension of .TXT) and then SET ALTERNATE ON to cause all CRT output to also be written to a disk file.

One specific need could be the output of mailing list data to a WordStar MailMerge file. MailMerge files have data separated (or delimited) with commas. In dBase II, comma delimiters must be specified with the "DELIMITED WITH ,". An example would be:

```
COPY TO text FIELD name,city,state,zip;
     DELIMITED WITH ,
```

This will produce a text file that can be used by Mailmerge.

WordStar → dBase II

WordStar creates two types of files that dBase II can use. In the first type, data is delimited by position. That is, if fields A and B are 15 and 20 characters in length respectively; then 15 columns and 20 columns respectively must be allowed when typing data with WordStar. This is because dBase II will APPEND by position in such cases. If a field is too short, data will be truncated. With WordStar, field lengths can be easily tabbed. Data must be entered in the N mode. The command lines for this type of file would be:

```
USE data
APPEND FROM text.txt DELIMITED
```

The second type of data file can be created using delimiters. Delimiters are commas, single or double quotes. The command line for this type of file would be:

```
USE data
APPEND FROM text.txt SDF
```

The command DELIMITED must be included or data will fill one field completely and then move on to the next field. This yields garbled data. Even though the manual says to use the command DELIMITED WITH <delimiter> with the APPEND command, do not do so.

This type of data entry might be useful if a list of clients is already created in a Mailmerge file. Another use would be if data is stored in another type of database or if field lengths in dBase II need to be changed without losing any data. In such cases the records are output to a text file, the dBase II file is modified or created, and then appended as above.

Ingenuity

With a little ingenuity, Osborne users may find they already own the software they need to interface spreadsheets, word processors and databases—at a fraction of the cost of extra software or hardware. Sorcim's SuperData Interchange (SDI) promises to make the job even easier, and SuperCalc II promises added features such as sorting.

One feature missing is the capability to create graphs. A new program by Robotics (936 Hermosa Avenue, Hermosa Beach, California 90254) offers Osborne users a Grafiks 2.0 package for $125 that accepts data from CBasic, MBasic, WordStar, SuperCalc and dBase II files. The graphs are high-quality and print out on a variety of printers. Bar, pie and line graphs are menu-selected. The graphs can be saved on disk or used as overlays for future graphs.

Fox and Geller have produced a marvelous program called Quickcode that for less than $200 can create menu-driven programs for data entry and editing in dBase II. NO expertise in programming is needed to produce excellent results that are virtually foolproof.

Given the Osborne's ability to interface programs, exchange data between software without re-entering (a major cause of errors in data entry), generate professional graphs, and, finally, create data-entry screens and fool-proof programs—the machine represents incredible power for data manipulation and display.

An Osborne on Mt. Everest

Managing an expedition of American men and women climbers from a base camp at 17,700 feet.

by Tony Bove & Cheryl Rhodes
Photos by Perry Moyle

125 miles from the nearest telephone, in a trek over the roughest terrain on the planet, twenty Americans hiked carrying among their supplies an Osborne computer to the height of 17,700 feet, the base camp for climbing Mt. Everest, the tallest mountain in the world.

Nepal is a land of contrast, exhibiting the largest altitude variation of any country in the world. From a jungle 150 feet above sea level near India, the land rises to the summit of Mt. Everest on the Tibetan border.

At base camp 12,000 ft. below the summit, temperatures can exceed 100 degrees in the afternoon sun, and plummet far below zero during the night. With no warning the mountain can be hit by violent storms packing 100 mph winds powered by moist monsoon air from the Bay of Bengal. With all the harsh landscape and snowbound terrain, it is one of the most beautiful places on the planet.

The climbers left in July (1983) and started their climb at the end of August. They returned at the end of October, having reached 28,000 feet, just 1000 short of the summit, with one woman setting a new altitude record for American women climbers.

But they did not reach the summit. They were beaten back by 100 mph winds, and spent an awful night with a tent filled with snow. Suffering from frostbite and fatigue under the harshest conditions, the climbers had to give up their quest and be rescued by fellow climbers.

Nevertheless the objective of the expedition, to climb Mt. Everest as a mixed team of men and women equally sharing responsibilities and chores, and to return as friends, was achieved. "We worked as a team, and we all returned as friends" says Perry Moyle, fund raiser and organizer of the expedition, "and that was the original objective."

Mt. Everest is 29,028 feet, and although women from other countries have scaled it, no American woman has ever reached the summit, nor has any woman ever tried the difficult West Ridge approach until this expedition. A new altitude record was set by Annie Whitehouse at 28,000 feet, roughly 1000 feet short of the summit.

The expedition, sponsored by the Yosemite Alpine Club, was a split-team effort, with six men climbers and five women climbers, and assorted support people. This approach is new for Himalayan climbing, where traditionally men would climb together and women would climb together, but not mixed teams. The expedition members climbed together throughout Europe, Asia and Africa. The team was kept small to minimize damage to the terrain.

Planning an expedition

Planning a climb of a Himalayan mountain takes a lot of time and is not unlike planning a business venture. The Osborne played the role of a business computer for the Yosemite Alpine Club's fund-raising and organizing efforts.

At first the Osborne computer was used to manage the mailing list for fund-raising efforts. There were more than 200 corporate sponsors donating equipment and money. One major cash sponsor was the Cox newspaper chain in Atlanta, GA (ninth largest newspaper chain in country), who sent a reporter to cover the expedition. Other sponsors included DuPont and the Allied Corp. The Yosemite Alpine Club raised $225,000 cash and $225,000 worth of equipment to fund the expedition.

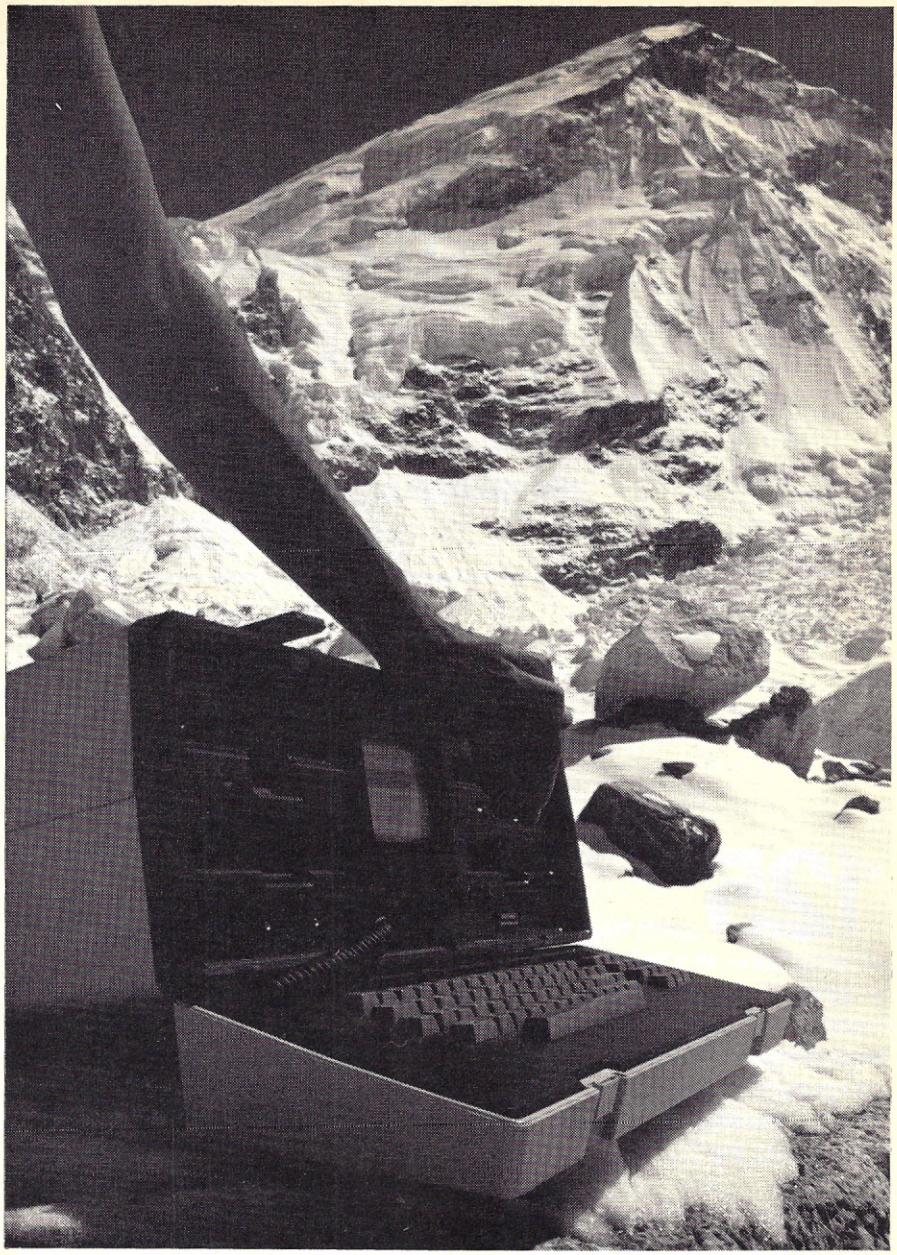
Perry Moyle used the Osborne as a word processor for writing and printing fund-raising request letters and merging them with mailing list names. Using WordStar, Perry created funding request letters personalized for each corporate sponsor.

The Osborne also helped in developing the menu. Eating on expeditions into Himalayan mountains is something you plan in advance. You have to calculate the weight-per-person of the amount of food to be eaten every day of the expedition. Certain amounts of food have to be carried up the mountain to various camps on specified dates.

There are variables in figuring the menu items as well as amounts. How many days will you eat oatmeal? How many days would you eat eggs? How much weight will be carried to which camp? How much will it all cost?

Most of the ten tons of supplies had to be shipped to Nepal six months before the climb, to avoid the monsoon season. To coordinate this effort, the Osborne computer kept track of inventory and transportation schedules.

Jim Sano, the expedition leader, used SuperCalc worksheets to calculate the trip menu and keep track of supplies. The Osborne also managed the budget. Figures changed constantly— transportation costs increased and equipment costs decreased as more was donated. SuperCalc spreadsheets were used to calculate the bottom line.



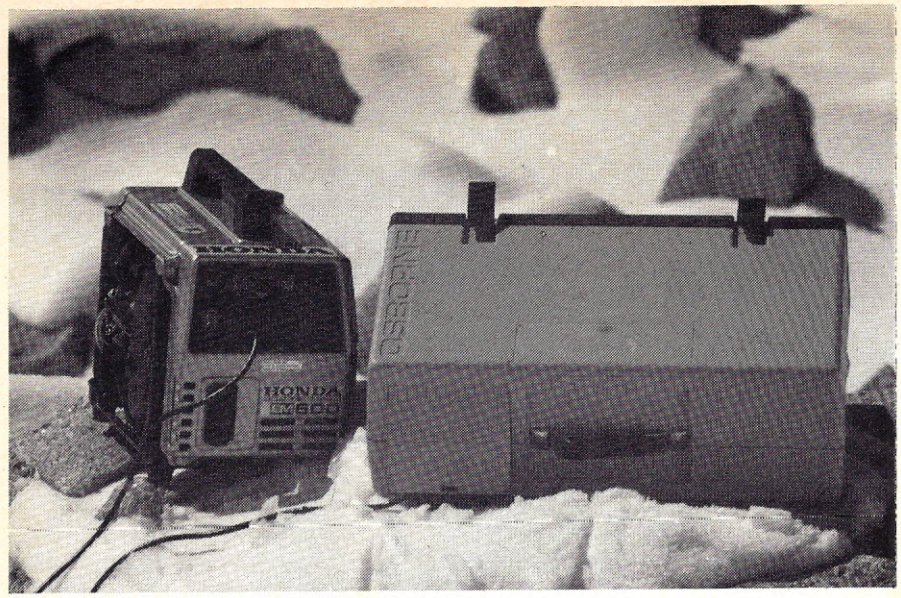
125 miles and 17,700 feet: An Osborne reaches new heights

The expedition took three months. The actual climb started at the end of August and ended in mid-October. For a while there were 20 Americans and 30 Nepalese staff, but at one time there were 125 Nepalese hauling equipment. (The Osborne with SuperCalc was handy for calculating and projecting wages for the Nepalese workers.)

There are no roads in Nepal except in the capital city. Nepal has a trail system and small landing strips for airplanes. Sherpa porters carry supplies on their backs until they reach 12,000 feet, then yaks carry the supplies at the higher altitudes.

The Sherpas are a large ethnic group living in Eastern Nepal. They have a tradition of helping mountaineers climb to the Himalayan peaks. They are superbly fit living at 12,000 to 14,000 feet all their lives. Their lung capacity is twice that of Westerners. Sherpas can help save lives in these harsh conditions and are essential for any Himalayan expedition.

The West Ridge is known as an uncommon and difficult route. It starts at the Khumbu Icefall, gate-



way to the south side of Mt. Everest and part of the original West Ridge route. This icefall has killed more people than any other hazardous area. The team bypassed this icefall and hiked 125 miles to establish a base camp above 17,700 feet at Lho La. From this location the team assaulted the summit by way of the West Ridge.

Over these 125 miles the Osborne was hauled on the backs of Sherpas and on yaks (a type of ox), and arrived in good shape. Amazingly it operated in temperatures below freezing. It needed no special equipment to operate at freezing temperatures.

The Osborne was double-wrapped in plastic to protect it from moisture during the hike through the monsoon weather. For fifteen days a Sherpa carried the Osborne, and for the last five days a yak carried it up to the base camp.

The expedition borrowed from Motorola some radio equipment for the base camp, powered by a car battery recharged by the portable Honda generator. The Osborne ran directly off the generator. No special adaptors were required. They simply plugged the Osborne cord into the generator's three-prong outlet and it ran without any problem.

The alternative to running directly off the generator was to recharge the battery pack. However, it took twelve hours to recharge the battery pack for one hour of use. Running directly off the generator was a much better choice. Although it is not recommended to do this (the power surges from a generator could damage the internal electronics), the expeditioners had no trouble with the direct connection. Freezing temperatures do not adversely affect the Osborne's circuits, although the cold makes it harder to type.

The first application was word processing. The reporter from the Cox newspaper chain used the Osborne to file weekly stories. The original plan called for Motorola to set up a communications link that would let the Osborne transmit the data via satellite to the Atlanta, Georgia editorial office. However, this plan called for an expensive antenna that could not be donated. The reporter used the Osborne for writing the stories, and then sent the floppy disks back to Georgia.

Base camp was at 17,700. The Osborne stayed at the base camp to be used for keeping track of supplies used, supplies to be packed, and supplies to leave in the "warehouse tent."

A comprehensive tracking system was not possible because the computer was not available to the Club early enough to keep track of various equipment shipped to Nepal months in advance.

The climbers brought with them 800 to 1000 pieces of gear. The fact that the climbers needed 30 pounds of gear (such as food, warm clothing and oxygen) for the final assault on the summit meant that at least ten tons of supplies would have to be transported to Nepal, and it was a difficult and time-consuming task to manage the logistics of moving supplies from one camp to another as they were needed.

Also, a change in climbing strategy, brought on by a change in the weather, could change the entire logistical plan and require supplies to be moved in different ways. The computer proved invaluable in helping to calculate the amount of oxygen needed at different altitudes and the amount of fuel needed to support life at each camp.

Climbing in the post-monsoon season was a race against weather. Climbing above Lho La could only begin after the heavy monsoon snows had ended. The summit had to be won before the jet stream winds and cold which prevented any movement on the exposed West Ridge. Fast-changing conditions prevented the members from actually achieving the summit from a point only 1000 feet below it.

Mountaineering involves expertise, gut-level decisions and fast thinking not usually associated with computers. A personal computer equipped with sophisticated weather-tracking software could be useful in this sport.

Unfortunately there are many uses of the Osborne that were not taken advantage of, because the expedition members did not receive the computer in time to develop software. The potential uses of personal computers in mountain climbing is superb. Climbers could use it to forecast weather by aver-

aging weather conditions over the last twenty years, and use this data to predict the optimum days for climbing.

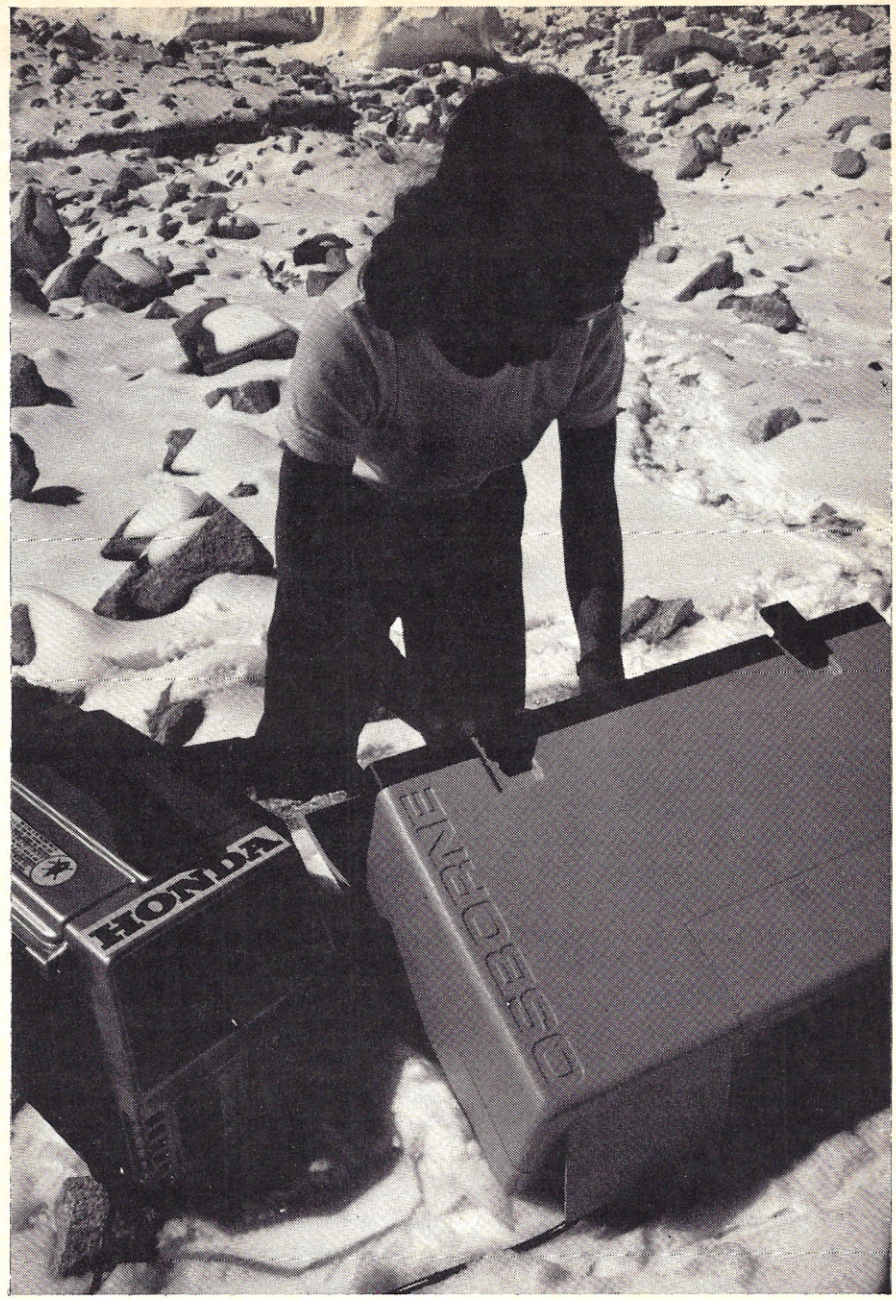
The expedition proved, among other things, that an Osborne computer could be used at a base camp as high as 17,700 feet to manage an expedition, and that the Osborne functions well at very low temperatures while connected directly to a standard portable generator. These results show that an Osborne computer could be useful in many different expeditions, such as in remote biological research projects that are scattered throughout the world, from tropical forest ecological studies in Brazil to snow sampling in Alaska, with appropriate data sharing and communications.

The Yosemite Alpine Club, which sponsored the expedition, is planning more expeditions, and Jim Sano will use data processing equipment to manage the expeditions as well as bring a computer along for the treks.

Jim Sano and Perry Moyle were both very pleased with this first test of using a personal computer in mountaineering. If the climbing of Mt. Everest is regarded as the ultimate test of endurance, courage and mountaineering skill, the Osborne should now be recognized as the heroic little portable computer that was first on Mt. Everest.

The Yosemite Alpine Club is a non-profit organization dedicated to promoting the sport of mountaineering and the development of a land ethic, for the advancement of the study of wilderness and its management, and for providing educational and financial support to expeditions. It was founded in 1978 and headquartered near Yosemite National Park in Mariposa County, CA. For more information, write to Jim Sano:

Yosemite Alpine Club
PO Box 823
Yosemite, CA 95389



Vicky Frankfourth Moyle at the keyboard of the Osborne-1 computer at base camp Lho La (elev. 17,700 feet), just 5000 feet from the summit of Mt. Everest in the Himalayas. The Osborne was carried on the backs of Sherpas over 125 miles of rugged terrain in 20 days. It functioned perfectly in sub-zero temperatures, drawing current directly from a portable Honda generator. Part of the West Ridge (elev. 24,000) is visible from the base camp.

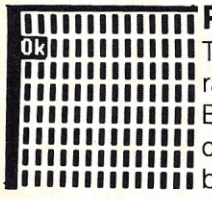
Easy Animated Graphics

A quick method to directly address screen graphics locations on the O-1.

Edward Dennison

PRINTing and POKEing are the two ways to make things happen on the Osborne screen while using MBASIC. Printing is a good way to display strings, computational results, prompts and so forth. But printing isn't such a good way to display things when programming animated graphic displays. Each successive PRINT statement after the twenty-fourth causes the entire display to scroll upward, disrupting the display.

Direct addressing of the cursor used in conjunction with print statements (as described by Peter Kelly in the April/May '83 issue and Kelly Smith in the premier issue) is problematic because the large number of statements required slows down the action and because it is a tedious programming method. Poking, as opposed to printing, directly addresses screen locations. This article describes a method of directly addressing screen locations on the O-1.



Peeking in pigeonholes

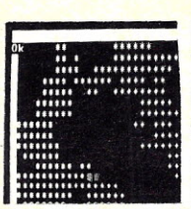
The Osborne 1's memory is like a huge rack of pigeon holes, 65535 in all. Each memory location (pigeon hole) contains one byte. Bytes are numbered from 1 to 256 with each byte corresponding to a particular character (74, for example, corresponds to an upper-case J). The topmost 4096 memory locations in the Osborne compose the video display. Location 61440 is the first column/first row location, while 64435 is the bottom-right hand corner of the 52X24 display window. Table 1 (see following page) shows the decimal memory locations for the Osborne's video display.

COLUMN

ROW:	1	11	21	31	41	51	61	71	81	91	101	111	121	128
1	61440	61450	61460	61470	61480	61490	61500	61510	61520	61530	61540	61550	61560	61567
2	61568	61578	61588	61598	61608	61618	61628	61638	61648	61658	61668	61678	61688	61695
3	61696	61706	61716	61726	61736	61746	61756	61766	61776	61786	61796	61806	61816	61823
4	61824	61834	61844	61854	61864	61874	61884	61894	61904	61914	61924	61934	61944	61951
5	61952	61962	61972	61982	61992	62002	62012	62022	62032	62042	62052	62062	62072	62079
6	62080	62090	62100	62110	62120	62130	62140	62150	62160	62170	62180	62190	62200	62207
7	62208	62218	62228	62238	62248	62258	62268	62278	62288	62298	62308	62318	62328	62335
8	62336	62346	62356	62366	62376	62386	62396	62406	62416	62426	62436	62446	62456	62463
9	62464	62474	62484	62494	62504	62514	62524	62534	62544	62554	62564	62574	62584	62591
10	62592	62602	62612	62622	62632	62642	62652	62662	62672	62682	62692	62702	62712	62719
11	62720	62730	62740	62750	62760	62770	62780	62790	62800	62810	62820	62830	62840	62847
12	62848	62858	62868	62878	62888	62898	62908	62918	62928	62938	62948	62958	62968	62975
13	62976	62986	62996	63006	63016	63026	63036	63046	63056	63066	63076	63086	63096	63103
14	63104	63114	63124	63134	63144	63154	63164	63174	63184	63194	63204	63214	63224	63231
15	63232	63242	63252	63262	63272	63282	63292	63302	63312	63322	63332	63342	63352	63359
16	63360	63370	63380	63390	63400	63410	63420	63430	63440	63450	63460	63470	63480	63487
17	63488	63498	63508	63518	63528	63538	63548	63558	63568	63578	63588	63598	63608	63615
18	63616	63626	63636	63646	63656	63666	63676	63686	63696	63706	63716	63726	63736	63743
19	63744	63754	63764	63774	63784	63794	63804	63814	63824	63834	63844	63854	63864	63871
20	63872	63882	63892	63902	63912	63922	63932	63942	63952	63962	63972	63982	63992	63999
21	64000	64010	64020	64030	64040	64050	64060	64070	64080	64090	64100	64110	64120	64127
22	64128	64138	64148	64158	64168	64178	64188	64198	64208	64218	64228	64238	64248	64255
23	64256	64266	64276	64286	64296	64306	64316	64326	64336	64346	64356	64366	64376	64383
24	64384	64394	64404	64414	64424	64434	64444	64454	64464	64474	64484	64494	64504	64511
25	64512	64522	64532	64542	64552	64562	64572	64582	64592	64602	64612	64622	64632	64639
26	64640	64650	64660	64670	64680	64690	64700	64710	64720	64730	64740	64750	64760	64767
27	64768	64778	64788	64798	64808	64818	64828	64838	64848	64858	64868	64878	64888	64895
28	64896	64906	64916	64926	64936	64946	64956	64966	64976	64986	64996	65006	65016	65023
29	65024	65034	65044	65054	65064	65074	65084	65094	65104	65114	65124	65134	65144	65151
30	65152	65162	65172	65182	65192	65202	65212	65222	65232	65242	65252	65262	65272	65279
31	65280	65290	65300	65310	65320	65330	65340	65350	65360	65370	65380	65390	65400	65407
32	65408	65418	65428	65438	65448	65458	65468	65478	65488	65498	65508	65518	65528	65535

In MBASIC the POKE command (POKE memory location,byte) POKEs the specified byte at the specified location. Turn on the machine, boot up MBASIC, and type POKE 62366,74. An upper-case J appears in the center of the screen. POKE any byte to any location, but be warned that the memory locations immediately below the video display are occupied by CP/M programs like BDOS. Poking things into this area can cause spectacular system crashes if I/O or disk operations out of MBASIC are subsequently attempted (like saving files or printing program listings). MBASIC's RESET command causes the system to re-read the system tracks into memory and it's a good precaution to do this after POKEing things and before attempting to save files.

Peeking is like poking, except that instead of putting bytes into memory it looks at the specified memory location and tells what byte is there. NOTE: the memory location must be in parentheses and there must be a space between it and PEEK, i.e., PEEK (memory location). Also, while POKE is a command, PEEK is a function. Typing PEEK (62366) produces an error message, just like typing 23 + 56 does. Either PRINT PEEK (62366) or LET X = PEEK (62366) must be typed. Type PRINT PEEK (62366) and the response should now be 74, because that's the byte POKED there earlier. Both PEEK and POKE can operate on variables (e.g. POKE X,69).



Now entering graphics mode

The Osborne can display 31 different block graphic shapes. There are two ways to do this. The first way, touched on in the *User's Guide*, involves entering the graphics mode and then printing CHR$(X) where X is between 1 and 31. Printing CHR$(27) + "g" enters the graphics mode and printing CHR$(27) + "G" exits it. When the Osborne is in graph-

ics mode it responds abnormally to keyboard input, among other things. The following short program illustrates one way of getting around this problem (in addition to enabling the viewing of all the graphics characters on-screen).

```
10 GON$=CHR$(27)+"g"
20 GOF$=CHR$(27)+"G"
30 POKE 16750,195
40 FOR G=1 TO 31 STEP 6
50 FOR R=0 TO 5
60 PRINT G+R;GON$;CHR$(G+R);GOF$;
70 NEXT R
75 PRINT:PRINT
80 NEXT G
90 POKE 16750,194
```

Type this program in and RUN it. The POKE statements in lines 30 and 90 have nothing to do with the screen display: they enable and disable the display of character 9. If line 30 is omitted then CHR$(9) becomes TAB. Line 30 disables the TAB and permits the display of character 9, while line 90 reenables TAB and disables character 9. It is evident that printing GON$ enters the graphics mode and printing GOF$ exits it.

There exists another set of graphics characters available through MBASIC. Type NEW (having saved the first program, if desired) and type in and run this program:

```
10 FOR G=127 TO 160 STEP 6
20 FOR R=0 TO 5
30 PRINT G+R;CHR$(G+R);
40 NEXT R
50 PRINT:PRINT
60 NEXT G
```

These characters are the same as the first set (with the exception of characters 127 and 128) only with underlines. If the underlines aren't objectionable, these characters are the way to go, since they can be used without entering the graphics mode.

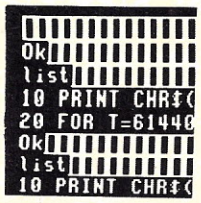
In addition to being printable, these two sets of graphics characters are also pokeable. To POKE the second set simply POKE memory location X, where X is between 127 and 160. Poking 32 to a screen location blanks the location (32 is the byte for a space). Try it out: pick a number between 127 and 160 and poke it to 64290. Do it again with a different number. As some may know, printing CHR$(26), when out of graphics mode, clears the screen and homes the cursor. Actually, it pokes 32 (space) into all screen locations. Type PRINT CHR$(26) and then PEEK a screen location. The result is 32.

Poking the first graphics set (the ones with no underlines) is a little more difficult. First enter the graphics mode, then poke the character (from 1 to 31), and then exit the graphics mode. Clear the screen and type:

```
PRINT CHR$(27)+"g":POKE 63006,13:
PRINT CHR$(27)+"G"
```

(If ever "stuck" in graphics mode type ?CHR$(27)+"G" and press return. If working extensively with the standard graphics set, one function key may be programmed to type ?CHR$(27)+"G".)

In addition to the desired graphics character (a circle) two undesired characters have appeared above the 'OK', a circle and a triangle. These are the graphic representation of a carriage return, and are one of the difficulties associated with using the first graphics set.



Follow the bouncing box

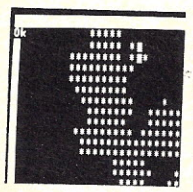
Through the use of a simple FOR-NEXT loop and the POKE command, animated graphic displays can be created. Type:

```
PRINT CHR$(26)
FOR T=61440 TO 65535:POKE T,128:
NEXT T
```

One at a time, all of the screen locations are filled with boxes. Clear the screen and type and run this short program:

```
10 FOR T=61440 TO 65535
20 OLDT=T
30 POKE T,128
40 POKE OLDT,32
50 NEXT T
```

This time, instead of the screen filling with boxes, a single box moves across the screen. As the location to be poked was incremented, the previous location of the box was blanked out, producing animated movement. From any given screen location, adding or subtracting 128 moves up or down one row, while adding or subtracting one, moves left or right one column. Diagonal moves can be accomplished by adding or subtracting 127 or 129. Take care that the FOR-NEXT loop doesn't escape the bounds of the screen (see line 380 in Listing 1) because if it does, the POKE command will ricochet through the computer's memory disrupting things (like CP/M) that shouldn't be disrupted.



The walking blob

Listing 1 on the following page shows a simple program which produces a randomly walking blob of five squares, which leaves a trail of asterisks. When run, the program requests a random number seed, then clears the screen and draws a border around the 24 X 52 window. The program is documented with REM statements which may, of course, be deleted.

"LISTING 1"

```
100 RANDOMIZE
110 PRINT CHR$(26):'                              LINES 110-220 DRAW BOUNDRY
120 FOR S=61440! TO 61491!
130 POKE S,150
140 NEXT S
150 FOR S=61619! TO 64435! STEP 128: POKE S,150
160 NEXT S
170 FOR S=64434! TO 64384! STEP -1
180 POKE S,150
190 NEXT S
200 FOR S=64256! TO 61568! STEP -128
210 POKE S,150
220 NEXT S
230 REM
240 REM
250 A=62873!:'                                    BLOB STARTING POINT
260 FOR LOOP=1 TO 1000
270 '                                             STORE OLD BLOB LOCATIONS
280 F=E
290 E=D
300 D=C
310 C=B
320 B=A
330 AIM=INT(RND*5):'                              GET BLOB DIRECTION
340 IF AIM=1 THEN A=A-128:'                       BLOB UP ONE
350 IF AIM=2 THEN A=A+1:'                         BLOB RIGHT ONE
360 IF AIM=3 THEN A=A+128:'                       BLOB DOWN ONE
370 IF AIM=4 THEN A=A-1:'                         BLOB LEFT ONE
380 IF A<61440! OR A>65535! THEN GOTO 410:'KEEP BLOB ON SCREEN
390 IF PEEK (A)=150 THEN GOTO 410:'               BOUNCE BLOB OFF BOUNDRIES
400 GOTO 430:'                                    SKIP
410 LET A=B:GOTO 330:'                            TRY AGAIN; RESET A
420 '                                             MOVE THE BLOB
430 POKE A,127
440 POKE B,127
450 POKE C,127
460 POKE D,127
470 POKE E,127
480 POKE F,42
490 NEXT LOOP
```

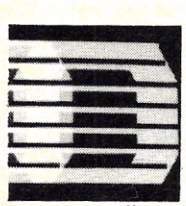
Screen movement can be made conditional, based on the presence or absence of other characters. Line 390 in Listing 1 prevents the poking of the blob into the boundary by checking to see if the intended poke location is occupied by a boundary character (150). If this line is added

```
385 IF PEEK (A)=127 THEN GOTO 410
```

to Listing 1, then the blob will be unable to walk over itself (rendering it a serpent rather than a blob). If this line is added instead

```
385 IF PEEK (A)=42 THEN GOTO 410
```

then the blob won't be able to walk over the asterisks it leaves behind (which ultimately results in a trapped blob).



It's the graphics generation

Peeking and poking in their many varieties are simple ways to generate both animated and static graphics. They permit relatively simple BASIC programs to directly address the video display. Using the techniques described in this article, relatively complete direct control of your computer's video display can be gained without submerging into the depths of assembly-language programming.

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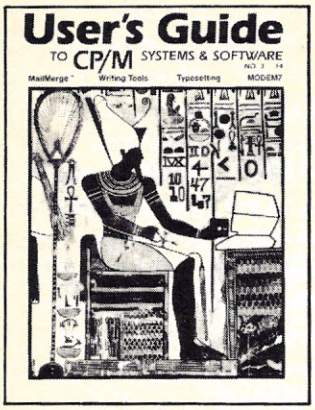

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UserGroups

Drive C Review

Don Krantz

Drive C is a RAMdisk for the Osborne 1. A RAMdisk is a piece of hardware that the computer thinks is a disk drive, but which in reality is a large Random Access Memory.

RAMdisks are used to increase processing speed when a lot of disk accesses are used. Drive C people claim a 10 to 20 times faster speed using the RAMdisk as opposed to a standard floppy disk drive.

The Drive C device at test here is the 384k version. Using this device, my "disk" capacity increases by a factor of two (I have double density machines). The unit is about 5" x 5" x 1/2" and fits snugly in the disk storage pouch under the B drive. Two cables connect the unit to the IEEE port, where the data goes in and out and to the external video connector, where the Drive C unit draws its power. The unit includes extension ports so that external monitors and parallel printers can still be used.

Drive C supplies a diskette with the system, which contains a driver, a .DOC file, and a utility program to back up files onto one or more diskettes for permanent storage.

Testing the unit got off to a poor start. The unit is apparently not compatible with my Radio Shack Daisy wheel printer II. With the printer disconnected, the unit works just fine. A quick call to California didn't help. A designer of Drive C said that they hadn't heard of the problem before. He said Epson and Paper Tiger parallel printers work with the unit.

With my printer disconnected, I got started again. This time, the unit worked fine. I decided the best way to test the unit was to use it in my daily grind on the computer. I normally spend about six hours a day at the keyboard, and I figured that would be a good test of its usefulness.

I booted the system and ran the driver program to install the system. This takes about three seconds, and is a good candidate for the AUTOST autoboot hook.

The next thing you have to do is to PIP something onto the Drive C. I loaded it with WordStar and the WordStar overlays, some source code, a compiler, a linker and several very large library files. 220K total takes about two minutes.

I ran a couple of timed tests just to see the difference. With the Drive C, a compiler from start to finish took 6:23 minutes, and without, 8:57. About a 30 percent savings in this particular case.

Then I tried some WordStar tests. It's amazing how much faster WordStar loads and gets ready for business. Also, you miss fewer keystrokes as WordStar is loading its overlays. Doing find-and-replace edits on an extremely large (100K) file, I find that you gain about five times in speed.

There are some drawbacks to the system. For example, a quick power transient can trash the entire "disk," causing you to lose a lot of data. Also, you must dump the contents of Drive C onto a floppy every time you power down. I managed to zap my directory when I was about five hours into a complex edit of a source program. This gave me the incentive to try a disk editor on the system. The one I used, DISKUTIL or DU from the utilities disk, had no problem reading and writing to the drive. I didn't manage to recover the source, but I did reclaim a very recent .BAK file, losing only about a half-hour on the transaction.

The UNERA or UNERASE utility also works on the Drive C system. As is the case with most add-ons, Drive C is not compatible with other IEEE (as opposed to parallel port) devices such as hard drives. There wasn't time to test Drive C with other brands of printers.

At the price they're getting for these units—$395 for 192K, $695 for 384K—the value for the money is marginal. I would not recommend the 192K version for double density owners, as you gain only disk access speed, which is offset by the loading/unloading requirements.

The only cases in which I would recommend the addition of a Drive C unit are:

- If you absolutely need to edit very large disk files under WordStar. The practical limit for a WordStar file is 1/3 of disk size, and the absolute limit is 1/2 the disk size.
- If you do inefficiently written disk sorts, which must be speeded up for some reason.
- If you use transient files which exceed the size of the disk on your machine.

These opinions do not imply that the device is not of high quality, but only that the utility to the average user may not be worth the money.

To order Drive C, contact: 1690 65th Avenue, Emeryville CA 94608; or Drive C, 2019 Second Street, Berkeley CA 94710.

Reprinted with permission from the July TCOG Newsletter, Twin Cities Osborne Group.

JRT Pascal review

Rick Hoffbeck

I don't think anyone hasn't heard of

JRT Pascal for $29.95 and I think everyone has heard about the horror stories associated with ordering JRT. For my own experience I originally ordered a copy of JRT Pascal on December 27 1982 with the promise of delivery in four to six weeks. On March 23 I finally wrote a letter to JRT requesting a refund which went unanswered and on April 25 the software finally arrived. This wasn't a track record that inspired a lot of confidence but then for thirty bucks a copy you can't afford to offer a lot of customer support.

The easiest way to describe how JRT Pascal works is to say it doesn't. JRT is one of the most aggravating pieces of software I have ever run across. The compiler is so unreliable as to make it completely unusable. Then when you finally trick the compiler into generating an executable file it is so slow that you may be tempted to go back to using paper and pencil. In summary, JRT isn't worth $29.95 for any purpose. If you are tempted to order it, I would recommend getting a copy from the user group library and copying the relevant portions of documentation. *Editor's note: JRT allows users to make copies so long as they're not for re-sale.*

The JRT compiler suffers from a number of difficulties that make it worthless for either production programming or learning the Pascal language. JRT Version 2.2 had a bad habit of going into an infinite loop and printing the same error message over and over again. In Version 3.0 this has been modified so that the compiler simply hangs up and forces you to reset the computer—often without any hint as to what caused the problem.

The compiler is also incomplete in the sense that it fails to detect some rather basic errors. For instance, try passing a variable to a procedure using the VAR declaration in the PROCEDURE statement and then declare the same variable as being a local within the procedure. As far as JRT is concerned, this is a perfectly legitimate operation until you run the program and reference the doubly declared variable—then it's off to never-never land!

My final complaint about the compiler is that the error messages generated are nonstandard and often irrelevant. For some reason JRT has decided to use its own error messages rather than the standard definitions for Pascal compilation errors. This forces you to constantly page through the manual to find the sparse listing of error messages (page151). When this code is combined with the compiler's habit of processing a line or two of source code before detecting an error the compiler becomes useless.

A second area of defects in JRT lies in the non-standard features that have been implemented as major portions of the languages. So much of the JRT language is non-standard that it is really quite misleading to call it Pascal. The formal definition of Pascal fails to address a number of basic areas; consequently, most Pascal compilers are written to conform to the published standards with non-standard extensions being used to handle things like strings and the like. JRT seems to have adopted the philosophy that "if the published standards are not complete why bother to conform at all?" The I/O is particularly bad but you have to try it to believe it—just remember to keep your blood pressure medicine handy.

A final deficiency that deserves comment is the moronic way in which functions are implemented in JRT. In JRT all external routines are declared in the main program and in any external routine that uses an external routine. The problem arises when the list of external routines in the external functions is in a different order then the one in the main program. JRT simply assigns numbers to each routine in each individual list in the main routine and all of the external routines. In other words, you better be sure that functions listed third in the main routine are listed third in the external routine or the results will be wrong.

In summary, save yourself a lot of unnecessary pain and agony by buying a decent Pascal compiler. JRT isn't worthwhile for either the beginner trying to learn Pascal or the experienced programmer looking for a usable compiler.

This review was excerpted from an article in the July 1983 TCOG Newsletter, Twin Cities Osborne Group, Minnesota.

Space did not permit reprinting Hoffbeck's review of Digital Research's $300 Pascal MT+ package. However, it was highly recommended. Says Hoffbeck, "Pascal MT+ is by far the best software development package that I have had the opportunity to use on a microcomputer ... .If you want to use, or for that matter learn, Pascal ... then MT+ is the package for you."

Clarification

The August issue of the *Companion* (*User Groups*, page 55) contained an article reprinted from OSBUG, the newsletter of the Osborne Business User's Group in Portland, Oregon. We have been advised that the program, CPMPOWER, described in the article as public domain is in fact proprietary software now called POWER! and marketed by Computing!, 2519 Greenwich, San Francisco, CA 94123. We apologize for perpetuating this misunderstanding. In addition, the byline showed Pavel

Breder as the author of the piece, which we have also been informed is incorrect.—Ed

CP/M notes and tips

Instant replay

Here's a simple trick that has been around for awhile. (I saw it recently in Alan Miller's excellent book *Inside CP/M.*) Suppose that you are using one of your CP/M utilities like PIP, for example, and you exit it by pressing <CR> when you did not intend to. Of course, you can reload PIP but that takes several seconds and can seem to be an eternity when you are in a hurry.

You can re-enter PIP almost immediately if you establish a directory entry as follows:

Select a program name to bring back the program just terminated—names like FETCH, BACK, RECALL, GET suggest themselves. The shorter the better. Let's choose GET.

Type a SAVE 0 GET.COM <CR>.

This will save zero pages of data in memory and place GET.COM in the disk directory. Thus, you have not used any disk space but have used up one directory entry.

Now if you leave PIP, say, you need only type GET and press <CR> to get the PIP prompt, *, back immediately. This will work for any program which starts at the Hex address 0100, because when you enter GET, CP/M loads the program and jumps to 0100h and executes whatever is there, namely PIP in this example.

A simple form feed utility

Have you ever had the occasion to print out something from CP/M and wanted to place separate items on different pages? Usually you have to manually give your printer a form feed. Here is a short program that was printed in a recent issue of Pickles and Trout's newsletter, which allows you to do it from your keyboard. To those of you familiar with hex values of ASCII characters, several other possibilities will suggest themselves to you—perhaps even a menu-driven utility to do a lot of useful little things like this.

All we require of the program is that it send a form feed character (0Ch) to the printer when we want it to do so. We can use DDT to create the program. The characters which you type are underlined.

```
A>DDT <CR>
DDT VERS. 2.2
-F100,200,0<CR>
-A100<CR>
0100 MVI C,5<CR>
0102 MVI E,0C<CR>
0104 CALL 5<CR>
0107 JMP 0<CR>
010A <CR>
-G0
A>SAVE 1 FF.COM<CR>
```

Line 0102 is where the form feed character is introduced, being loaded into the E register.

They (P&T) suggest the name EJECT.COM for this little program. We prefer FF.COM because it is short, hence easy to enter, and it represents "form feed," which is what we want to happen. Name it what you want to.

To use it, whenever you are printing from CP/M, simply key in FF<CR> and your printer will move to the top of the next page.

Reprinted from the July 1983 issue of Toggle, the monthly newsletter of the Tacoma Osborne Group.

Reform text with carriage returns

John Wiseman

Have you ever tried to use WordStar's reform feature on text that ends with carriage returns? A carriage return tells the WordStar program not to bother with that particular line of text. When correctly used, there should only be a <CR> to break a new paragraph. If a few <CR>s have been entered by mistake, use a (control) ^T at the end of the previous text line effectively removes the <CR>, then reform with ^B.

You will inevitably run into text created on another word processor, text downloaded from a remote computer or someone with an uncontrollable urge to press RETURN on each line of a 10 page document. Reforming text under these conditions requires WordStar's special hidden features. First use the Find and Replace command (control) ^QA. At the "FIND" prompt enter ^P^N (the screen will only show ^N). This feature finds a carriage return/line feed. Now press RETURN and at the prompt "REPLACE WITH" press RETURN to enter a space.

At the prompt "OPTIONS" enter "G" for global replacement. When you press RETURN for the final time the cursor will position to the location of the first <CR> and in the upper right hand corner of your screen the prompt will ask "REPLACE (Y/N)". You can now selectively remove the <CR>s. Allow enough time after each "Y" you type for the program to reposition the cursor or you will find extra characters in your text. When you are finished move to the beginning of the text and reform with ^QQ^B.

John Wiseman is President of the Colorado Springs Osborne Group. Reprinted with permission from DOG Bytes, the newsletter of the Denver Osborne Group.

^QQ^B1.SFK

Benjamin H. Cohen

I have seen a number of articles about setting up special function keys (SFKs) for Osborne when using WordStar. A number of them suggest that you set one up to enter ^QQ^B so that you can quickly reformat your text. That's fine as far as it goes, but it doesn't go far enough.

When you enter ^QQ^B (or any ^QQ instruction, for that matter), the screen gives you a prompt: "TYPE 1 TO 9 TO VARY SPEED, SPACE TO STOP." The default speed is 5, a medium speed. What you probably want is the fastest speed, or 1. So why not add it to the SFK in the first place? Set it up as ^QQ^B1 and it will reformat at the fastest possible speed.

Reprinted from the June 1983 issue of PIP, the newsletter of Chicago's First Osborne Group.

UserGroups

User Group Update

Several new user groups have asked that they be added to the *Companion's* list. The listing below includes all the notices we've received as of the end of July. If your group has been overlooked, please let us know as early as possible for inclusion in an upcoming issue.

New Groups:

Phyllis J. Calhoun
Clear Lake Osborne & CP/M Group (CLOG)
P.O. Box 57153
Webster, TX 77598

Roderic Knight, President
^OB^OS Group
Houck Computing Center
Oberlin College
Oberlin, OH 44074
(^OB^OS has the FOG public domain software library and subscribe to the update service. Meetings are held bi-weekly.)

Dr. Donald E. Goodman
Arkansas First Osborne Group (AFOG)
2327 W. Berry
Fayetteville, AR 72701

John Wiseman, President
Colorado Springs Osborne Group
6535 Lange Drive
Colorado Springs, CO 80918

Sylvia Webb, Founder
South Bay Osborne-CP/M User's Group
9512 Eleventh Avenue
Inglewood, CA 90305

Harvey G. Lord, Programs Director
Yankee Osborne Users Group
P.O. Box 183
Storrs, CT 06268

Burt L. Fielding, Founder
Santa Maria Osborne Group (SMOG)
325 Poppinga Way
Santa Maria, CA 93455

dBASICS

Endless loop

The agony and the ecstasy of writing a command file

Patricia Watters

As a "simple little exercise," I thought it would be easy to write a short command file to print a name and address on an envelope. Occasionally I need to address one or two envelopes at a time, and I have such a program already on MailMerge that calls for interactive variables. But I thought of how nice it would be to enter only the last name and have the rest of the work done by the computer.

It took two weeks, working off and on, thinking about it, reading both sections of the manual, the *dBase II User's Guide* by Adam B. Green, and all issues of the *Portable Companion* for clues—besides receiving help from some programmers at OCC who answered specific questions. Well, that's how we learn, by making remarkably bad mistakes. So in grateful appreciation I offer the following account of my travail, and the resulting program:

```
* envelope.cmd 4.26.83 pat/w
* command file to print a selected address on an envelope
*
SET TALK OFF
USE mstrlist
STORE Ø TO x
*
DO WHILE T
    ERASE
    ?
    ?
    ? "      1.  PRINT AN ENVELOPE FOR A FRIEND, ETC."
    ?
    ? "      2.  PRINT AN ENVELOPE FOR A COMPANY"
    ?
    ? "      3.  RETURN TO dBASE II"
    ?
    ? "      4.  RETURN TO CP/M"
    ?
    ACCEPT 'CHOOSE A CATEGORY ' TO NEXT
    DO CASE
          *
        CASE NEXT = '1'
            DO label
        CASE NEXT = '2'
            DO company
        CASE NEXT = '3'
            RELEASE x
            CANCEL
        CASE NEXT = '4'
            RELEASE ALL
            SET TALK ON
            QUIT
    ENDCASE
    *
ENDDO WHILE T
```

Figure 1

Figure 1 shows the main menu file, ENVELOPE.CMD. It is quite straightforward and easy to follow, except for a "store 0 to X." That little letter gave me some trouble for a while. It is a line counter, and vital to this program. I wanted to put an envelope in the printer, have it printed, stop, put in another envelope, have it printed, stop, and so on—a type of manual loop. With no EJECT. The file ADDRESS.CMD (Figure 2) takes care of the print position, but when storing 0 to X in this module, X goes back to zero each time the program calls for DO ADDRESS to do its stuff. The first envelope prints fine, 10 spaces down on the envelope, but the second time through the program the computer wants to start a new sheet of paper and count 10 spaces down, so it insists on throwing out the old one before printing the next name and address.

Well, we fooled it. The computer thinks it's writing on an endless roll of paper. Now the counter starts at 23 the second time around (13 + 10), 26 the third time, and so on forever.

```
A>
*
* address.cmd 5.10.83 pat/w
* called by label.cmd as print subroutine
SET FORMAT TO PRINT
SET MARGIN TO 0
STORE TRIM(firstname - ( " " + lastname)) TO envname
STORE TRIM(address - ( "   " + secondline)) TO envaddr
STORE TRIM(city:state - ( "   " + zip)) TO envzip
STORE x+10 TO x
@ x,40 SAY envname
STORE x+1 TO x
@ x,40 SAY envaddr
STORE x+1 TO x
@ x,40 SAY envzip
STORE x+1 TO x
@ x,40 SAY country
STORE x+1 TO x
@ x,1
STORE x-1 TO x
SET FORMAT TO SCREEN
RETURN
```

Figure 2

```
A>
* label.cmd 5.12.83 pat/w
* called by envelope.cmd to find a selected name from a file
*
STORE T TO choosing
DO WHILE choosing
    ERASE
    ?
    ACCEPT "Enter last name (lower case) or <CR>" TO lname
    IF lname = " "
        RETURN
    ENDIF lname = " "
    LOCATE FOR lastname = lname
    IF EOF
        ERASE
        ?
        ? "Name is not in file as entered"
        ?
        ? "Try again.  Press any key to continue"
        WAIT
        RELEASE lname
        LOOP
    ENDIF EOF
    *
    ?
    ACCEPT "First name or <CR>" TO fname
    IF fname <> " "
        LOCATE FOR lastname = lname .AND. fname $ firstname
        IF EOF
            ERASE
            ?
            ? "Not in file"
```

```
                ?
                ? "Press any key"
                WAIT
                RELEASE fname, lname
                LOOP
            ENDIF EOF
        ENDIF fname <> " "
        DO address
        STORE F TO choosing
ENDDO WHILE choosing
RETURN
```

Figure 3

DO WHILE T(rue) is an endless loop because it is always true, but choosing option 3 or 4 will allow exit. QUIT closes all files and releases all variables; it is not really necessary to give these instructions. CANCEL (option 3), however, will only go back to dBase II; "disp memo" will display what is still in memory.

Another DO WHILE T loop can be found in LABEL.CMD (Figure 3), but here T is stored to the memory variable CHOOSING and can be changed to F(alse) to quit the loop, which is done after it has printed an address. This DO WHILE loop is there so that IF EOF (end of file) is reached without finding the selected name, the LOOP command will cause the program to go back to the DO command, and the previous entry can be corrected or revised. (There are probably more elegant ways of doing this, but I can testify that IF # = 0 is not it. The record number never equals zero.) I put two different messages in the EOF loops so that I could tell which loop was running when I was debugging. No doubt one could call another file here "IF EOF:DO ENDOFILE:ENDIF," and write ENDOFILE.CMD with the list of messages and commands and RETURN.

```
A>dd
* company.cmd 5.10.83 pat/w
* stub for another choice
?
?
? "  Option 2"
?
? "   This program is not ready yet"
WAIT
RETURN
```

Figure 4

The instructions of ADDRESS.CMD could simply follow along in this same LABEL command file. At one time I had the program arranged in such a way that the ADDRESS file was called twice, so it has been left as a subroutine. My DBF (data base file) is not indexed on LASTNAME so I had to use LOCATE to find a record. If a file is indexed on LASTNAME, the use of FIND is much faster, and calls for the use of the "@" symbol here and there in front of memory variables. A further note on ADDRESS.CMD: the concatenation of first and last name (and the other field variables) works by putting to the end of the line all the extra spaces allowed in the field. These trailing spaces will be "printed" on the next line if necessary, and cause double-spacing. The TRIM function will get rid of them.

FIRSTNAME is interesting for those who can't necessarily remember exactly how they entered the first name in the DBF: Was it Mr. and Mrs. Billy Goat Gruff, or Billy and Nancy? By using the substring function "$," Billy can be entered and dBase will find the correct record. Of course, if they are the only Gruffs on the list, no problem. Entering the last name is enough. That one was easy. Used the way it is described here, the function is called a logical operator in the manual.

Figure 4 shows an option stub. Since the program had grown to a much larger size than anticipated, one more option seemed like a good idea. If needed later, another routine can be written for it. It can be left out, but if so, option 2 must be eliminated from ENVELOPE.CMD and/or the remaining options renumbered.

That's it. In a sentence: ENVELOPE.CMD calls LABEL.CMD which calls ADDRESS.CMD which returns to LABEL.CMD which returns to ENVELOPE.CMD which "does while true." Have at it.

SuperCalc to riches

Following the detailed trail of real estate investment analysis

Robert G. Melzer

Excellent software packages are available, for $200 or more, which provide a detailed analysis of real estate investment, showing monthly payments, cash flow, depreciation, tax advantages and return on investment. Alternatively, an hour or so at the Osborne can result in a SuperCalc template that provides the same information.

This program is of immense value to those in the real estate business as well as the thousands of people who use rental properties as investments. It can compare the relative merits of several properties under consideration. By changing one or more figures, the impact of investment is immediately apparent: What happens to the bottom line when the amount of monthly rent is changed, or when a larger downpayment is placed?

Figure 1 shows the template, while Figure 2 illustrates use of the template with a sample property. Figure 3 provides the contents file for the SuperCalc template.

Rows 6 through 26 in column B are used to input data required for the analysis, while rows 29 through 43 provide data which has been computed from the input data.

	A	B	C	D	E	F	G
1	ADDRESS:		INVESTMENT ANALYSIS				R. G. (TONY) MELZER
2			RESIDENTIAL PROPERTY				776-0999
3							
4							
5							
6	PURCHASE DATA		INPUT				
7	Sales Price:						
8	Down Payment:						
9	Closing Costs:						
10	Interest Rate:						
11	Nr of years:						
12	Mortgage Amount:		.00				
13							
14	OPERATING DATA				MONTHLY		YEARLY
15	Taxes (yearly):				.00		.00
16	Insurance (yearly):				.00		.00
17	Condo Fees (monthly):				.00		.00
18	Management Fees (monthly):				.00		.00
19	Rental Income (monthly):				.00		.00
20	Value of Land:						
21	Tax Bracket (%):						
22							
23	SALES DATA						
24	Years Held:						
25	Est %/year inflation:						
26	Mortgage Balance:						
27							
28	CASH FLOW				MONTHLY		YEARLY
29	Principal and Interest:				ERROR		ERROR
30	Total Payments:				ERROR		ERROR
31	Cash Flow:				ERROR		ERROR
32	Depreciation:						.00
33	Profit/Loss-Tax Purposes:						ERROR
34	Tax Savings:						ERROR
35	Adj Yr-End Cash Flow:						ERROR
36							
37	LONG-TERM APPRECIATION						
38	Selling Price:						.00
39	Selling Costs (8%):						.00
40	Net Sales Receipts:						.00
41	Net Profit:						.00
42	Acquisition Costs:						.00
43	Annual Yield (%):						ERROR
44							
45							
46							
47							
48							
49	NOTE: The above analysis involves estimates and approximations for simplicity						
50	and ease of calculations. Actual figures may vary. This analysis should be used						
51	only to assess the relative merits of a property for investment purposes.						

Figure 1

	A	B	C	D	E	F	G
1	ADDRESS:		INVESTMENT ANALYSIS				R. G. (TONY) MELZER
2			RESIDENTIAL PROPERTY				776-0999
3							
4							
5							
6	PURCHASE DATA	INPUT					
7	Sales Price:	70000.00					
8	Down Payment:	7000.00					
9	Closing Costs:	4500.00					
10	Interest Rate:	12.50					
11	Nr of years:	30.00					
12	Mortgage Amount:	63000.00					
13							
14	OPERATING DATA		MONTHLY	YEARLY			
15	Taxes (yearly):	770.00	64.17	770.00			
16	Insurance (yearly):	200.00	16.67	200.00			
17	Condo Fees (monthly):	18.00	18.00	216.00			
18	Management Fees (monthly):		.00	.00			
19	Rental Income (monthly):	570.00	570.00	6840.00			
20	Value of Land:	3500.00					
21	Tax Bracket (%):	35.00					
22							
23	SALES DATA						
24	Years Held:	7.00					
25	Est %/year inflation:	6.00					
26	Mortgage Balance:	60000.00					
27							
28	CASH FLOW		MONTHLY	YEARLY			
29	Principal and Interest:		672.37	8068.47			
30	Total Payments:		771.21	9254.47			
31	Cash Flow:		-201.21	-2414.47			
32	Depreciation:			-4433.33			
33	Profit/Loss-Tax Purposes:			-6847.80			
34	Tax Savings:			2396.73			
35	Adj Yr-End Cash Flow:			-17.74			
36							
37	LONG-TERM APPRECIATION						
38	Selling Price:			105254.12			
39	Selling Costs (8%):			8420.33			
40	Net Sales Receipts:			96833.79			
41	Net Profit:			36833.79			
42	Acquisition Costs:			11500.00			
43	Annual Yield (%):			18.09			
44							
45							
46							
47							
48							
49	NOTE: The above analysis involves estimates and approximations for simplicity						
50	and ease of calculations. Actual figures may vary. This analysis should be used						
51	only to assess the relative merits of a property for investment purposes.						

Figure 2

Purchase data

The inputs in rows 7 through 12 pertain to the purchase of the investment property. This data can be provided by a real estate agent or from the listing form for the property being considered. Most lending institutions will require at least a 20 percent down payment for investment properties, but often an existing mortgage can be assumed with a much smaller down payment. (From an investment standpoint, the smaller the down payment, the greater the return on the invested dollar.) Note that B12 is automatically calculated by subtracting B8 from B7.

Operating data

These figures pertain to operating expenses of the property being considered, and once again can be provided by the real estate agent or the listing form. The figure selected for rental income (B19) should be based on prevailing rates in the area for comparable properties. Advertisements in the local newspaper will be helpful here.

The value of the land must be estimated, since the IRS does not permit land to be depreciated. For a single family house, it probably would be reasonable to assign about 20 percent of the purchase price to the value of the land, while a townhouse or condominium would have a much smaller percentage (5 to 10 percent) allocated for land value.

Tax bracket information can be obtained from last year's income tax return, and should remain about the same unless a significant change in income is anticipated this year.

Sales data

These figures are estimates which must be made concerning the sale of investment property at some point in time. (I generally hold a property for five to seven years (B24); after seven years the tax advantages begin to diminish significantly.)

In the Maryland area where these figures were compiled, properties have generally appreciated at an annualized rate of about 9 percent per year (B25). Some people use a more conservative figure — around 5 percent—for their projections. When comparing two or more properties for investment purposes, the same holding period and inflation rate should be used for each of the properties.

The mortgage balance at time of sale must be estimated. Generally the principal balance declines very slowly during the first years of the morgage, and for a holding period of five years or so, will decline by only a couple thousand dollars.

Cash flow

Now for the calculations. Row 29 computes monthly payment of principal and interest, while Row 30 shows total monthly and yearly payments. Row 31 calculates monthly gross cash flow which, given today's market conditions, will probably be negative. Before despairing, remember to consider depreciation and tax advantages.

```
SuperCalc Ver.  1.05
ADDRESS:
A1      P= "ADDRESS:
C1      P= "INVESTMENT ANALYSIS
G1      P= "R. G. (TONY) MELZER
C2      P= "RESIDENTIAL PROPERTY
G2      P= "   776-0999
A6       = "PURCHASE DATA
B6       = "INPUT
A7       = "  Sales Price:
A8       = "  Down Payment:
A9       = "  Closing Costs:
A10       = "  Interest Rate:
A11       = "  Nr of years:
A12       = "  Mortgage Amount:
B12       = B7-B8
A14       = "OPERATING DATA
C14       = "MONTHLY
D14       = "YEARLY
A15       = "  Taxes (yearly):
C15       = B15/12
D15       = B15
A16       = "  Insurance (yearly):
C16       = B16/12
D16       = B16
A17       = "  Condo Fees (monthly):
C17       = B17
D17       = B17*12
A18       = "  Management Fees (monthly):
C18       = B18
D18       = B18*12
A19       = "  Rental Income (monthly):
C19       = B19
D19       = B19*12
A20       = "  Value of Land:
A21       = "  Tax Bracket (%):
A23       = "SALES DATA
A24       = "  Years Held:
```

Figure 3 Continued

```
A25       = "  Est %/year inflation:
A26       = "  Mortgage Balance:
A28       = "CASH FLOW
C28       = "MONTHLY
D28       = "YEARLY
A29       = "  Principal and Interest:
C29       = B12*((B10/12/100)/(1-(1/(1+(B10/12/100))^(B11*12))))
D29       = C29*12
A30       = "  Total Payments:
C30       = C29+SUM(C15:C18)
D30       = D29+SUM(D15:D18)
A31       = "  Cash Flow:
C31       = C19-C30
D31       = D19-D30
A32       = "  Depreciation:
D32       = (B7-B20)/(-15)
A33       = "  Profit/Loss-Tax Purposes:
D33       = D31+D32
A34       = "  Tax Savings:
D34       = D33*(-1)*(B21/100)
A35       = "  Adj Yr-End Cash Flow:
D35       = D34+D31
A37       = "LONG-TERM APPRECIATION
A38       = "  Selling Price:
D38       = B7*(1+(B25/100))^B24
A39       = "  Selling Costs (8%):
D39       = D38*.08
A40       = "  Net Sales Receipts:
D40       = D38-D39
A41       = "  Net Profit:
D41       = D40-B26
A42       = "  Acquisition Costs:
D42       = B8+B9
A43       = "  Annual Yield (%):
D43       = ((D41/D42)^(1/B24)-1)*100
B49 TL    = "NOTE: The above analysis involves estimates and approximations for simplicity
B50 TL    = "and ease of calculations. Actual figures may vary. This analysis should be used
B51 TL    = "only to assess the relative merits of a property for investment purposes.
```

Row 32 calculates annual depreciation. Today's tax laws permit a residential investment to be depreciated over a period of 15 years. The IRS provides for use of a much more complicated formula which provides greater depreciation in earlier years, but here it is simpler to depreciate the value of the property by one-fifteenth each year (less the value of the land, of course).

Row 33 shows the profit or loss for tax purposes, after considering the advantages of depreciation. Depending on the particular tax bracket, this will result in significant tax savings (E34) next April, and will produce an adjusted year-end cash flow (E35) which looks far more appealing than the original computation in Row 31.

Long-term appreciation

The selling price is computed using a compound- interest formula based on the inflation rate entered in Row 25. In Maryland, selling costs (E39) are generally about 8 percent of the selling price; the formula can be easily adjusted where the percentages are different. The net profit (E41) is derived from the net sales receipts (E40) minus the outstanding mortgage balance (B26).

The annualized yield on investment (E43) is a very rough figure based only on initial investment (down payment and closing costs) compared to net profit. It does not include tax savings from interest payments or depreciation. Nonetheless, it does provide a useful gauge for comparing one property to another.

Hopefully this SuperCalc template will become a valued tool and useful aid in fulfilling investment goals. Even if a real estate investment is not planned for the near future, it may be valuable for analyzing other investments. Good luck, and happy investing! ◘

The Processed Word

Portable scriptwriting double-density style

Roy E. Reinhart

I first scanned R. Patrick Neary's article, "Portable Scriptwriting," in the July issue of the Portable Companion (page 27) only because my wife is interested in the subject. When I read his listing of the programmed special function keys (SFKs), I wanted to solve the mystery of their use without reading the rest of the article. This is a game I play to see how well I understand WordStar. It's also a good way to learn more uses for the SFKs.

At the end of the article came the editorial challenge to fit everything into 86 characters for double-density machines. I first counted the number of characters used by Neary. There were 102. Subtracting the 86 character limit for double-density told me 16 characters had to be eliminated.

It didn't look good. If only "continued" could be abbreviated ... well, there was no use fretting until I checked Neary's SFKs for extra characters. I quickly found one in SFK 0 and seven extras in SFK 3. Eight characters already; maybe there was hope after all.

While pouring a cup of coffee at work the next day, it suddenly dawned on me that there were four extra characters in SFK 7. I called my wife and had her try SFK 7 without these characters. It worked. With only four characters to go, I began to get excited about reaching the goal.

No more revelations came at work the rest of that day. Staring at Neary's SFKs that evening didn't produce anything. I was about to give up when my wife had a suggestion. (She hadn't followed the old adage and read Neary's directions before, instead of after, all else failed.) She read the last paragraph, center column, page 29—showing how to remove five more characters from SFK 3 and one from SFK 4. We made it! Eighteen spaces had been removed.

How did we do it?

Let's start with the easy things having no effect on Neary's SFKs. Simply remove the colon in SFK 0 and A:B: in SFK 7. These SFKs become:

0=LB<CR>D

7=RXDIR<CR>

Many WordStar users know the colon isn't needed to log onto the B drive, as shown in SFK 0. Also in WordStar, with B as the logged disk drive, A: and B: are not needed with XDIR. WordStar first looks for XDIR on Drive B. If not there, it looks for XDIR on Drive A. Upon finding XDIR on A, it gives the extended directory of the present logged drive—B in this case.

The next change is also simple but does minimally affect the operation of Neary's SFKs. Remove ^OI33<cr> from SFK 3 and ^I from SFK 4. Neary used the tab stop at 33 to left-justify the character's name near the center of the page. He states, "If you didn't remember to tab in for the character's name until after you typed it, you can just press ^6 and it will center automatically." He also says, "You may even prefer doing it this way." Let's hope so; this is required for double-density Osbornes.

To enter a name with this change, simply type it in and press ^6 instead of tabbing twice. The first tab still works for the parenthetical stage directions as described by Neary. For correct placement of "CUT TO:" or "DISSOLVE TO:" press TAB twice instead of three times.

After these changes, SFKs 3 and 4 become:

3=JH2^OJ^OH^ONA<cr>
^OI28<cr>^OI50<cr>

4=^I^ICONTINUED<cr>.PA
<cr>CONTINUED<cr><cr>

Now comes the most difficult and perhaps most useful part of this article—reconfiguring WordStar's default values so the program always loads with Help at Level 2, Justification off, and Hyphen-help off. These modifications are also useful to single-density users because it frees up SFK space and saves time waiting for these values to change after pressing the SFK.

These changes are a little more difficult than simply deleting characters from the SFKs but are nothing to fear if first a copy is made of the WordStar diskette. Never attempt changes to original diskettes.

WordStar changes can be INSTALLed two ways: one for those with INSTALL on the WordStar diskette and one for those who don't. Osbornes purchased with double-density option have INSTALL on the WordStar diskette; single-densities have INSTALL on the CP/M Utility diskette. Those who purchased the double-density upgrade have room on the WordStar diskette to PIP the INSTALL feature to it. XDIR the WordStar diskette to find INSTALL. If it is there, follow the steps for double density. If not, follow the steps for single.

(Those floundering over this explanation of INSTALL can find more explanation on page 84 of the December 1982/January 1983 Portable Companion. Help is also available, if needed, in Appendix 1 of the Osborne User's Reference Guide.)

Those with double-density WordStar should place the program diskette in Drive A. Press RESET and then RETURN to load WordStar. At the no-file menu, type R to run a program. When COMMAND? appears, type INSTALL and press RETURN. When INSTALL identifies itself and asks about a "normal first- time installation," press N for no. Then WordStar INSTALLATION OPTIONS MENU will appear with options A through D. Type D.

Use the filename A:WS.COM. Press return.

Those with single-density WordStar should place their diskette in Drive B and place the CP/M Utility diskette in Drive A. Press RESET and RETURN to load CP/M. At the A> prompt, type INSTALL and press RETURN. Here also, the question of "normal first- time installation" is answered with N for no. At the INSTALLATIONS OPTIONS MENU, B is typed instead of D. When asked for the filename to use, type B:WS.COM and press RETURN.

The remainder of the procedure up to its exciting conclusion is the same for both single and double density.

After choosing the proper INSTALLATION OPTION for single or double density, INSTALL presents four more menus about the WordStar terminal, printer, communications protocol and driver. If Osborne and printer have been on speaking terms, select U (unchanged) for each menu and answer each question with Y, telling INSTALL to leave these menus unchanged.

After U and Y are answered for the driver menu, INSTALL asks "Are the modifications to WordStar now complete?" Type N for no. INSTALL now prompts you with how to modify a location.

INSTALL then prompts, "LOCATION TO BE CHANGED (0=END)."

Type either ITHELP: or 0360 to change the Help level to 2, and press RETURN. (I always use the hex address numbers if I know them because it takes less typing.) Remember to use the colon if typing ITHELP:. INSTALL now prompts:

ADDRESS: 0360 OLD VALUE: 03H NEW VALUE:
Type 02, press return. WordStar has just been configured to always load with Help level at 2.

INSTALL again prompts:

"LOCATION TO BE CHANGED (0=END)."

To turn off Justification, enter either INITWF:+1<cr> or 0386<cr>. INSTALL now prompts:
ADDRESS: 0386 OLD VALUE: FF NEW VALUE:
Enter 00<cr>.

To turn off Hyphen-help, enter either INITWF:+4<cr> or 0389<cr>, and change FF to 00.

Loading WordStar with Insert off is done by entering either ITITOG:<cr> or 0362<cr>, and changing FF to 00.

Those on a roll might want to check page 86 of the December 1982/January 1983 Portable Companion for other default values which can be changed.

After all changes are made, type 0<cr>, and Y to confirm terminal and printer selections. SFK 3 on the WordStar diskette can now be changed to:

3=^ONA<cr>^OI28<cr>
^OI50<cr>

With these changes made, everything will work exactly as described by Neary, with the following two exceptions:

1. Each character's name will be centered instead of being left-justified at column 33. Type in the name and use ^6.

2. For correct placement of CUT TO: or DISSOLVE TO: tab twice instead of three times.

The nine special function keys now become:

0=LB<cr>D
1=^OL8<cr>^OR65<cr>
2=^OL18<cr>^OR52<cr>
3=^ONA<cr>^OI28<cr>
^OI50<cr>
4=^I^ICONTINUED<cr>
.PA<cr>CONTINUED<cr><cr>
5=^KDP^R
6=^OC
7=RXDIR<cr>
8=^Y^Y^Y^Y
9=^KS^QP

Happy portable scriptwriting, double-density style.

Roy Reinhart is a member of OSBUG, the Portland Osborne Business User's Group.

New Products

New Product information is derived from press releases sent to The Portable Companion by the producing companies. Statements of fact or opinion expressed in the New Product announcements that appear in this magazine are those of the producing company and have not been checked for accuracy by Osborne Computer Corporation. Before purchasing any of the products listed in this section, you are advised to check the validity of all claims made for the product.

Arrows diversified

Who needs to be limited by a little thing like a SETUP program? No one, anymore, it appears—thanks to a set of programs by CompuMagic called **Manykey**. Designed for the O-1, Manykey allows every .COM program to define its own control number and arrow keys, independent of the keys defined by SETUP.

The program customizes each program's working environment without the need to re-boot the system or run SETUP. The use can automatically have exact key-definitions for programs ranging from MBASIC to WordStar to SuperCalc, to PIP and DDT. The definitions are easily changed and Manykey can print program names and key definitions to fit on a standard index card.

Cost is $20. (Maryland residents add $1 tax.) Program disk is warranted for five years. Documentation includes program descriptions, instructions, and examples of useful key-definition sets. It works with any standard O-1, rev. 1.3 ro 1.44, single or double density.

CompuMagic
P.O. Box 780
Severn, MD 21144

Hard-disk networking

Trantor Systems, which makes hard-disk subsystems, has announced a **network for the Osborne computer.** It will support four Osbornes, two serial peripherals and one Centronics printer, and up to eight hard-disk subsystems.

Regular retail price will be $1,995.

Trantor Systems, Ltd.
4432 Enterprise Street, Unit I
Fremont, CA 94538

Format conversion

A complete **CP/M format conversion service** is now available through Advent Products Inc., manufacturer of the OSBAUD baud rate generator for the O-1.

Conversions between these computers are available:

Osborne I (single and double density), IBM with CP/M-86, Apple, Intertec Superbrain, Standard 8-inch (3740), Otrona Attache, Kaypro II, DEC VT 180, Northstar, Digital Microsystems, HP-125, TRS Model I, TRS Model III, Xerox 820 (single and double density), NEC 8001, Morrow, Heath Z89, Heath Z100, TI Professional.

Conversions are $25 per diskette on orders less than 10, and $20 per diskette on orders of 10 or more. Additional copies of converted diskettes are $5 each. Diskettes—3M—can be purchased directly from Advent at $3 each, or can be supplied by the customer. Turnaround time, claims Advent, is two days on most orders. Orders are accepted on a prepaid or COD basis only.

Advent Products Inc.
965 North Main Street
Orange, CA 92667

Lose no more

Loss of data will be ancient history with the installation of Cuesta System's **Datasaver** AC power backup unit. Both the O-1 and the Executive can use the 90-watt unit which can power most portable microsystems and products.

The Datasaver guards against data loss due to unexpected power loss and transients. It also provides the possibility of making the systems truly portable: the unit consists of a rechargeable sealed battery, automatic battery charger, solid- state power inverter, AC line voltage conditioner and monitor, and high-speed AC transfer switch. An overvoltage transient suppressor, visible and audible alarms, electronic interrupt signal, and auxiliary 12-volt battery jacks are provided.

Dealer discounts are available.

Cuesta Systems, Inc.
3440 Roberto Court
San Luis Obispo, CA 93401

Interfacing the Executive

An interface cable support for the Executive to a wide range of peripherals including DaisyWriter, IDS, Epson, Centronics, C.Itoh, IBM, InfoScribe, Anadex, Brother and Okidata printers, as well as Hayes and Novation modems, is now available through Computer Accessories Corporation.

C.A. cables include protocol set-up information for both computer and peripheral, and a five-year warranty against manufacturer defects. Cables that exceed the requirements of FCC Docket number 20780 controlling RFI/EMI emissions are also available.

Contact Computer Accessories for nearest dealer, or Paul Eichen, director of sales.

Computer Accessories Corporation
7696 Formula Place
San Diego, CA 92121

Wrap-Up

Out of the black hole

I am delighted to report that the second most important event in Osborne Computer Corporation's efforts to leave Chapter 11 and become reorganized occurred today in Court. The Disclosure Statement, which must accompany the Reorganization Plan, was approved. We are now proceeding at full speed to obtain creditor approval, and then to the most important event: final confirmation of our plan by the Court. It is now possible for the new Osborne company to be fully launched by the summer.

While we're talking about "seconds," the second most asked question about Osborne's near future is "What will become of *Portable Companion*?" This issue tells you of the high priority it holds in our reorganization efforts. We intend to continue the publication of *Portable Companion* from this point forward on a bi-monthly basis. We are extremely pleased that we were able to attract two highly regarded editors who are committed to preserving the quality and integrity of the publication.

Unfortunately we cannot honor past subscriptions to the magazine. However, in appreciation of your outstanding loyalty and support, we are sending the first two issues of the new *Portable Companion* free, to any person who has ever been a subscriber.

As we move forward with the new Osborne Computer Corporation, you can anticipate exciting new articles, applications, technical tips, accessories, and new product information in the new *Portable Companion* magazine.

Ronald J. Brown
President & Chief Executive Officer
Osborne Computer Corporation
March 14, 1984

FOG

The **F**IRST **O**SBORNE **G**ROUP **(FOG)** has been formed as a User's Group for persons using or interested in portable computers and/or the CP/M disk operating system with related software. In September of 1983, there was over 5400 members from around the world. Most attend local group meetings at over 300 locations.

Computer systems owned or used by members include the Osborne 1 (single and double density), the Osborne Executive 1, all models of the Morrow MicroDecision, the Zorba, all models of the KayPro, several MicroMates, and many more. Special interest groups organized to augment a network of local group meetings include dBase II, Ham radio operators, Personal Pearl.

FOG was started in October of 1981 by a small band of early buyers of the Osborne 1. The primary purpose was to organize a library of public domain software to run on the Osborne 1. A newsletter was quickly started to act as a focal point for the group's activities. The large number of excellent contributions to both the library and the newsletter has produced a library of 111 disk (as of August 1, 1983) and a nicely typeset (24 or more pages) newsletter which is published monthly. All back issues of the ***FOGHORN*** are available for a nominal fee which includes shipping in the U.S. Contributions are currently being solicited for a bulletin board system which we hope to have in operation in the fall of 1983. It will accept both 300 and 1200 baud calls.

While the meetings are organized on a local basis, many of these local groups are joining the FOG network, thus increasing the sharing of information, tips, problems and so on. Those local groups which opt to formally join the FOG network receive a portion of local member dues to assist with the cost of maintaining a local copy of the disk library.

The FOG library is currently maintained on the Osborne 1 single density format but separate libraries are being established for the other computer formats. The library files are carefully screened and divided into category types (utilities, games, applications, and computer languages are the four major categories). Programs which contain run or other errors are put into the hacker section so interested members can fix them and resubmit for inclusion in the correct section. Items which do not fit into one of these categories are in the miscellaneous section. A catalog and descriptions of all the discs is maintained in the library section.

Dues in FOG are $24.00 per year. This entitles each member to a copy of the ***FOGHORN*** each month as well as access to the disk library. Local group meetings are open to the public without charge although most restrict access to the library to the membership. The FOG library contains only public domain software. Piracy (the copying of proprietary software) is strongly condemned.

In the United States, the ***FOGHORN*** is normally mailed by non-profit bulk mail. (FOG is a corporation in the state of California and has obtained its non-profit, tax exempt status from both the state and federal governments.) For those members who live out of the country or who prefer first class delivery of their ***FOGHORN***, additional postage must be added to the annual dues. See the chart below for details.

If you are interested in joining a self-help organization to increase you knowledge and the use of your computer, use the application below (or a copy of it). Generally, memberships received at the FOG office prior to the 15th of the month are entered in time to receive the next month's ***FOGHORN***.

If you know of a local group which might be interested in joining the FOG network, please send all details (meeting dates and places, officers, and how interested local computer owners can join). We will send you an information packet on becoming an Affiliated Member Organization.

For your records, the address of FOG is P. O. Box 3474, Daly City, CA, 94015-0474. Please allow at least two months for the arrival of your first ***FOGHORN*** since bulk mail can take as much as nine weeks. (The post office says that it should only take about three week for non-profit bulk mail but some members on the East Coast have experienced longer delays.) A membership card will be processed within a week of the receipt of your dues.

ADDITIONAL POSTAL CHARGE CHART

Please add the appropriate amount to your dues payment.

Canada & Mexico (First Class Airmail delivery)	ADD...$ 6.00
Members with U.S. addresses who prefer First Class delivery to bulk mail	ADD...$ 6.00
Central & South America, Caribbean, & Europe (Airmail First Class delivery)	ADD...$12.00
Asia, Africa, & Far East (Airmail First Class)	ADD...$15.00
Out of North America preferring surface mail — delivery not guaranteed	ADD...$ 6.00

CUT HERE

NAME: _____

COMPANY: _____

ADDRESS: _____

CITY: _____

STATE: _____ ZIP or MAIL CODE: _____ COUNTRY: _____

HOME & WORK PHONES: _____

MEMBER OF WHICH LOCAL GROUP? _____

COMPUTER TYPE? _____

MODEM TYPE? _____ PRINTER TYPE? _____

INTERESTS? _____

Send this completed application **AND** your payment to:

FIRST OSBORNE GROUP
P. O. Box 3474
Daly City, CA 94015-0474
United States of America
Phone: (415) 755-4140

pc12

Be sure to include any required postage surcharge.
Your membership card will be sent by 1st class mail.

JMM Computer Peripheral Accessories for Osborne™...

These RS232C Serial Cables are especially designed to interface the Osborne 1™ computer system to the various serial devices used in the computer industry.

The Centronics printer cable allows the use of the IEEE-488 port as a centronics conformal interface for printers. This cable is 5' long and avoids the need for a serial to parallel interface in the printer.

A coaxial type video cable is required for the high data rates transmitted by the Osborne 1™. This quality cable enhances the display.

The EXMON II is a combination package and includes the EXMON and a UHF modulator. This allows the use of television sets as monitors without "hard wire" connections to the television set.

The EXMON external monitor adapter is designed for the Osborne 1™ computer system, and enables the use of any standard video monitor with the Osborne 1™ computer.

The IEEE-488 adaptor cable provides the standard IEEE-488 interface connection to the Osborne 1™ computer.

Padded carrying case to protect and ease handling and carrying.

The KEYBOARD EXTENDER cable is intended to increase the freedom of movement for the keyboard of the Osborne 1™. This cable plugs into the Osborne 1™ keyboard connector and then the keyboard cable plugs into the other end. The standard length is 24".

Mastercard & Visa Accepted

Osborne 1 is a trademark of the Osborne Computer Corporation

JMM Enterprises manufactures and distributes quality interface products for the Osborne 1™. We provide Monitors, Printers, and STROBE™ Plotters.

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These products are in stock at local dealers. You may contact JMM directly for assistance. Overseas shipments are no problem.